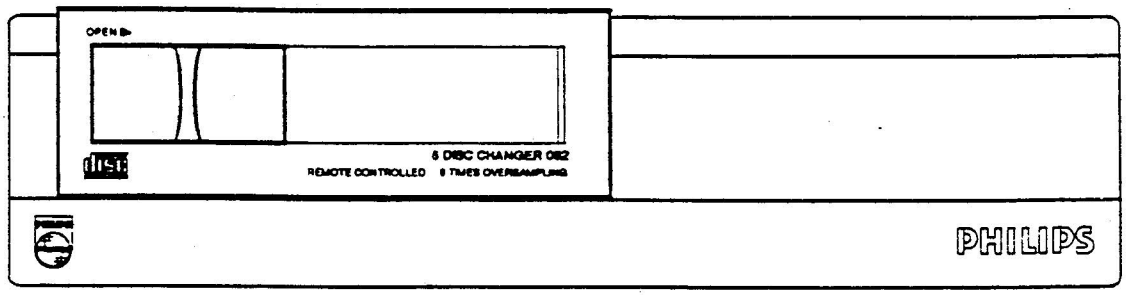
Car CD Changer 22DC082/00

Service Manual



CLASS 1
LASER PRODUCT

Distributor: PHILIPS E.G.P
BP 65
78512 RAMBOUILLET CEDEX

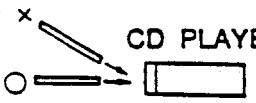
Contact : M.SIGAUD , D.GIRIN
Service dep^{t}
Fax : 1 34 83 71 16

COMPACT DISC SYMPTOMS AND FAILURE GUIDE

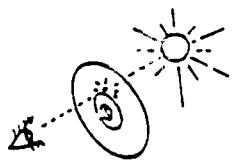
FOR SYMPTOMS OCCURRING WITH SPECIFIC DISCS

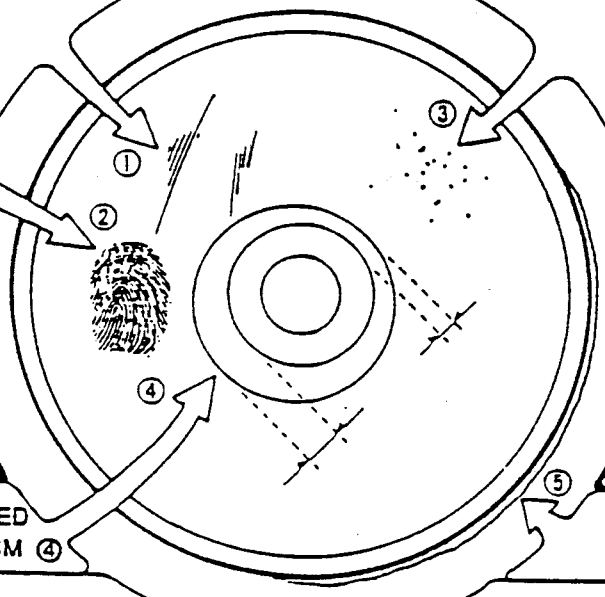
NOTE: (1) SYMPTOMS
(2) CAUSE
(3) SOLUTIONS

(1)	SKIPS. STUUCK ON ONE TRACK. DISC EJECTS DURING PLAY.
(2)	SCRATCHES ① FINGARPRINT MARKS OR DUST (UNC N SURFACE) ②
(3)	HANDLE DISC BY EDGE ONLY. KEEP DISC CLEAN BY USING A CLEANING KIT SPECIFICALLY DESIGNED FOR COMPACT DISCS. LOAD DISC STRAIGHT AND LEVEL. NOT AT AN ANGLE. TO PREVENT FURTHER SCRATCHING.



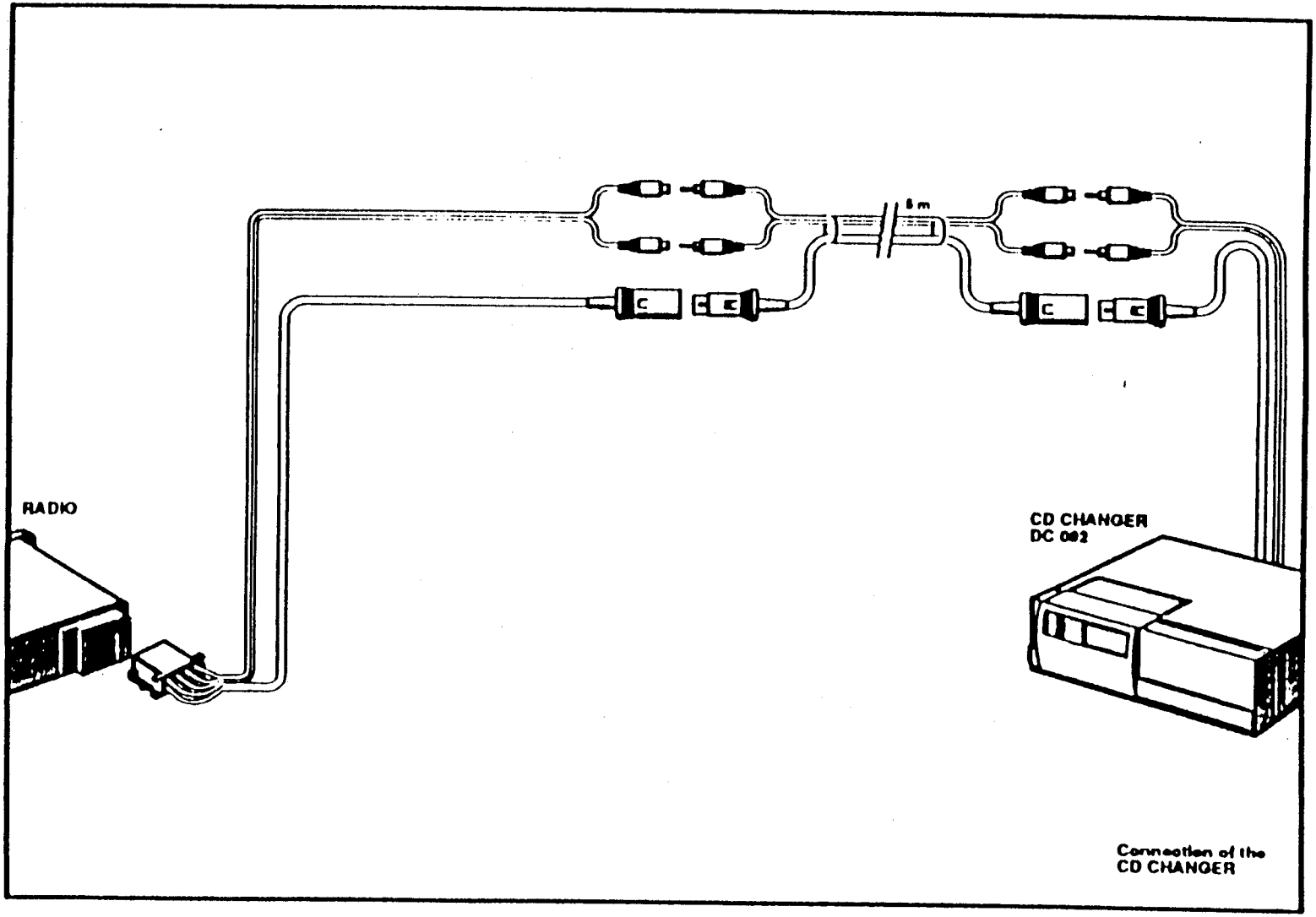
	SKIPS. STUUCK ON ONE TRACK. DISC EJECTS DURING PLAY.
(1)	
(2)	PIN HOLES IN DISC CAUSED DURING STAMPING PROCESS - REFLECTIVE MATORIAL MISSING. ③
(3)	CHECK FOR PIN HOLES BY HOLDING DISC UP TO A LIGHT SOURCE AND OBSERVING IT AS ILLUSTRATTED. DELECTIVE DISC SHOULDNOT BE USED IN PLAYER.



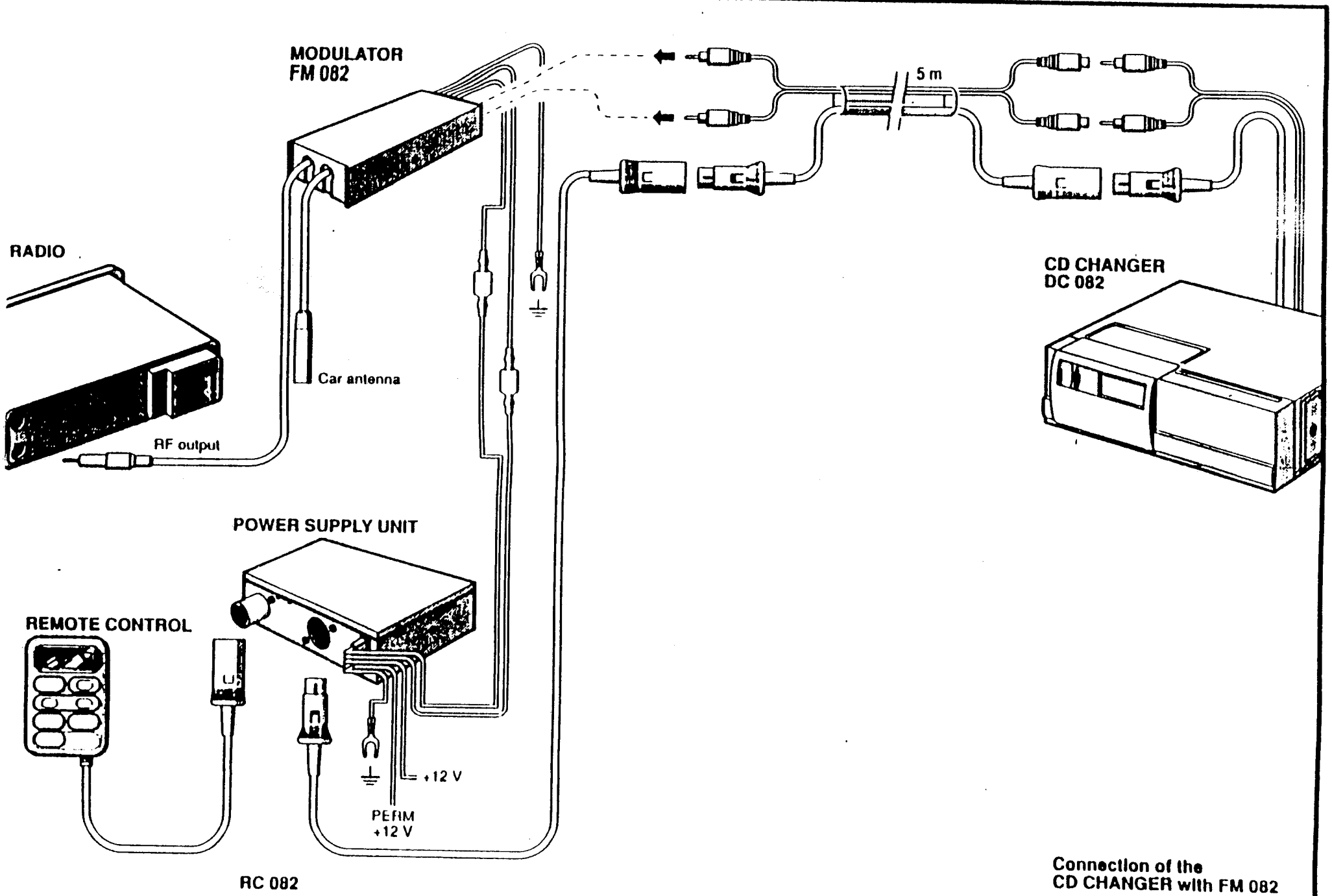


(1)	DISC LOADS, THEN EJECTS AFTER A FEW SECONDS.
(2)	DISC NOT BEING CENTERED ON CLAMPING MECHANISM ④
(3)	DISC CENTER HOLE DEFECTIVE DURING MANUFACTURING PROCESS PREVENTING TABLE OF CONTENTS (TOC) TO BE READ TRIGGERING THE EJECT MECHANISM DEFECTIVE DISC SHOULD NOT BE IN PLAYER.

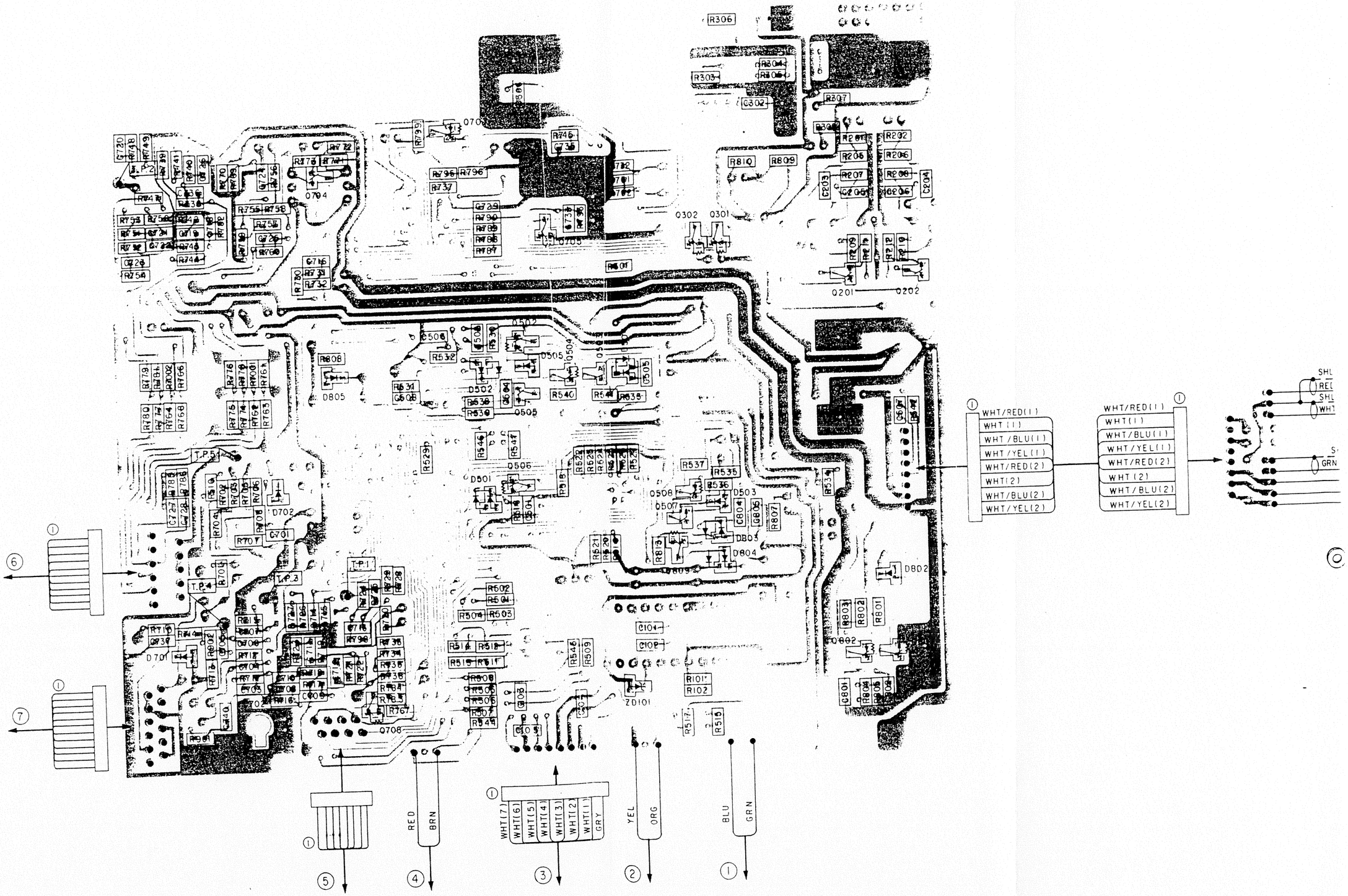
	DISC LOADS, THEN EJECTS AFTER A FEW SECONDS. (1)
(2)	ROUGH EDGE ⑤
(3)	ROUGH EDGES MAY LOUCH MECHANISM PARTS AND CAN BE CORRECTED BY LIGHTLY SANDING DISC EDGES.



Connection of the
CD CHANGER



Connection of the
CD CHANGER with FM 082


R306
R303
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C302
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R810
R809
Q302
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R843
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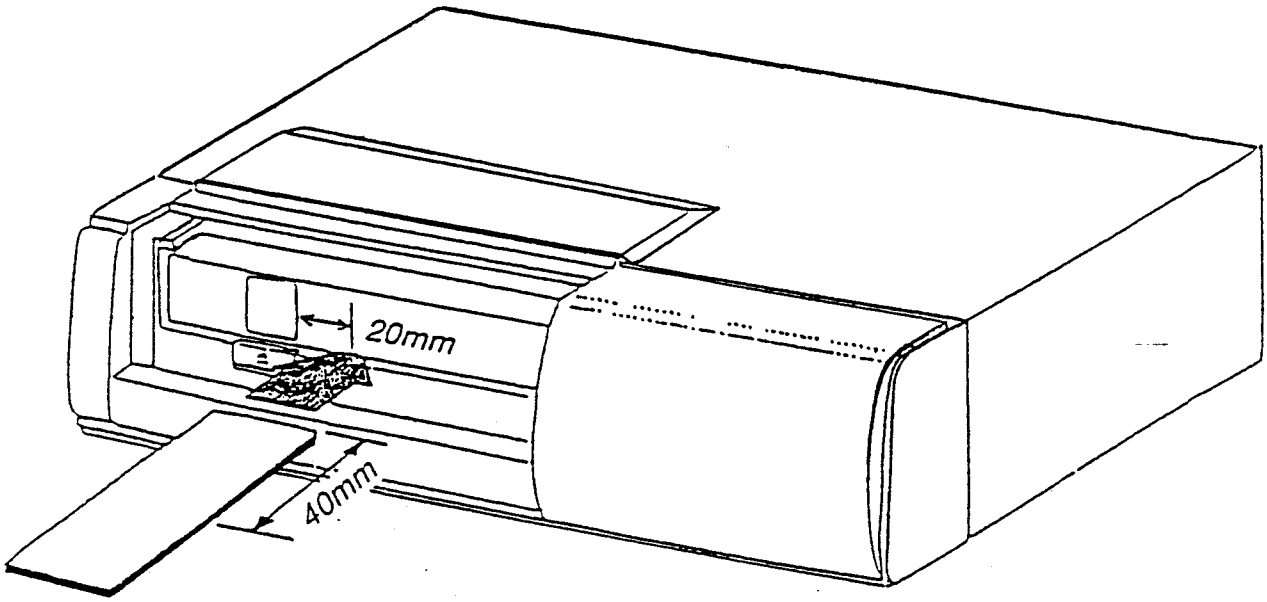
R846
R847
R848
R849
R850
R851
R852

CD Changer

CD Magazine Emergency Eject Method

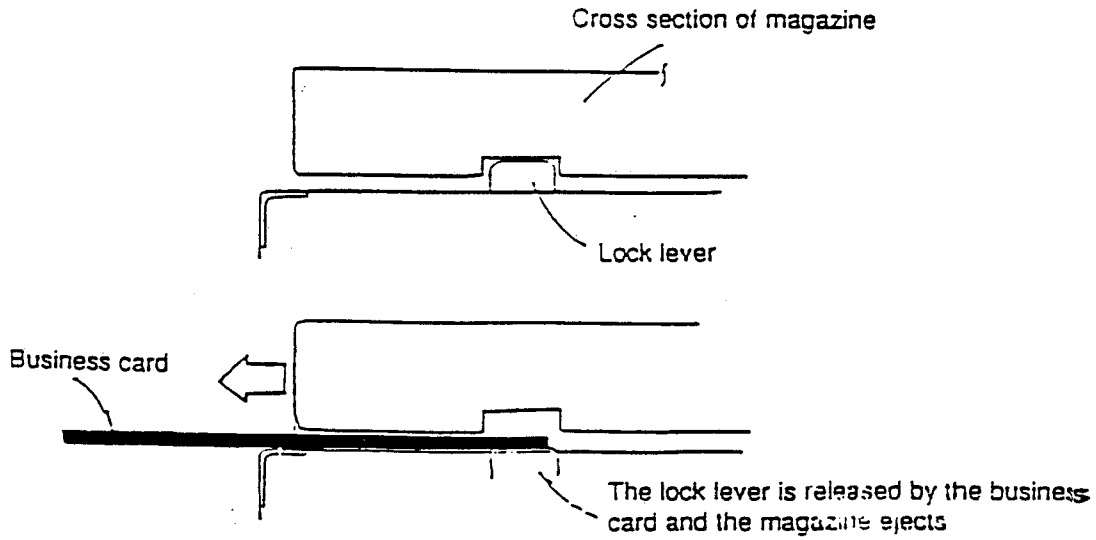
[Method]

1. Open the dust cover on the changer.
2. Fold a business card vertically in half.
3. Insert the business card between the CD magazine and the changer mechanism. (Refer to the drawing below for the insert position.)
4. The magazine will eject when the folded card is inserted approximately 40 mm.

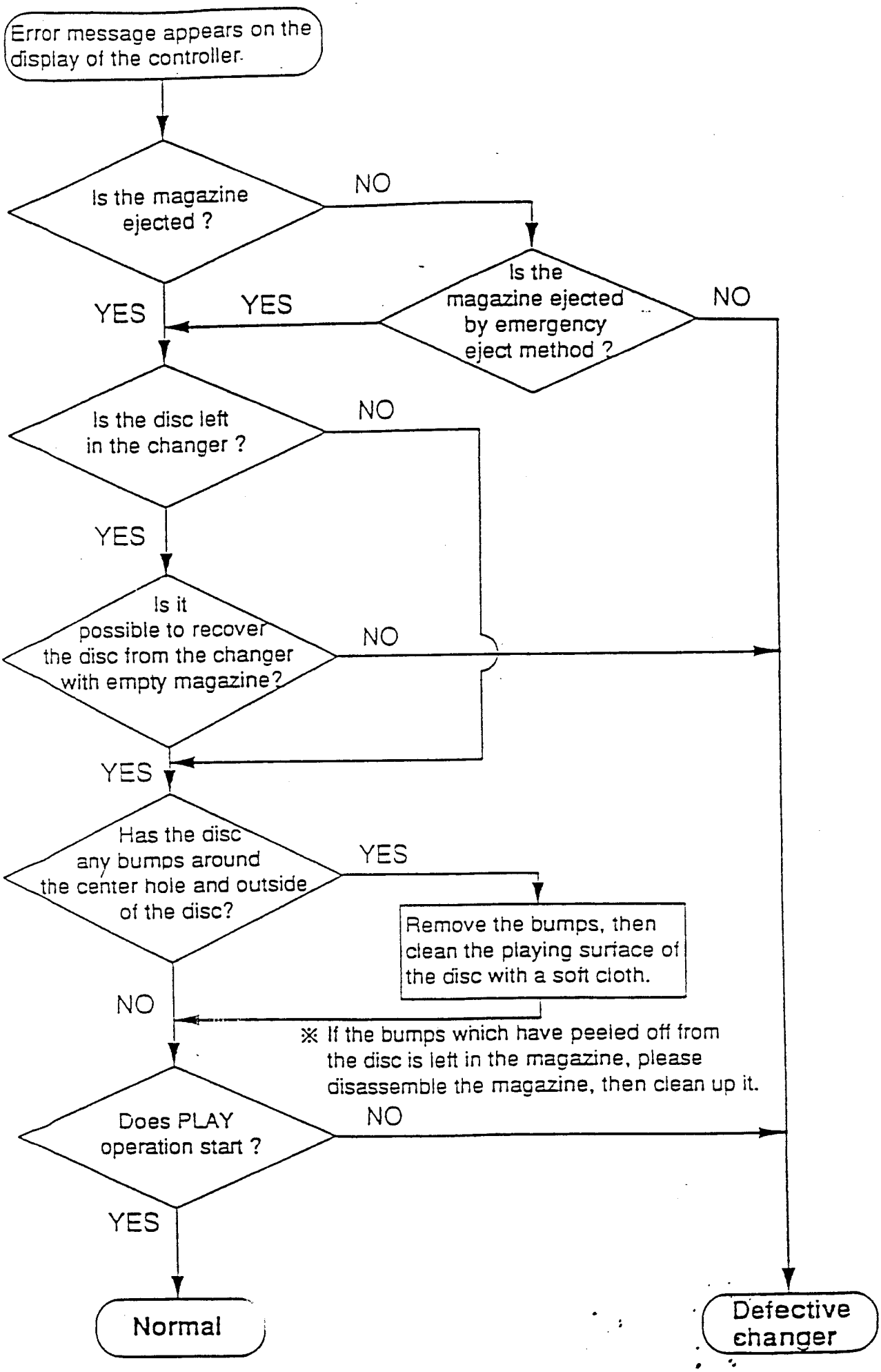


[Reference]

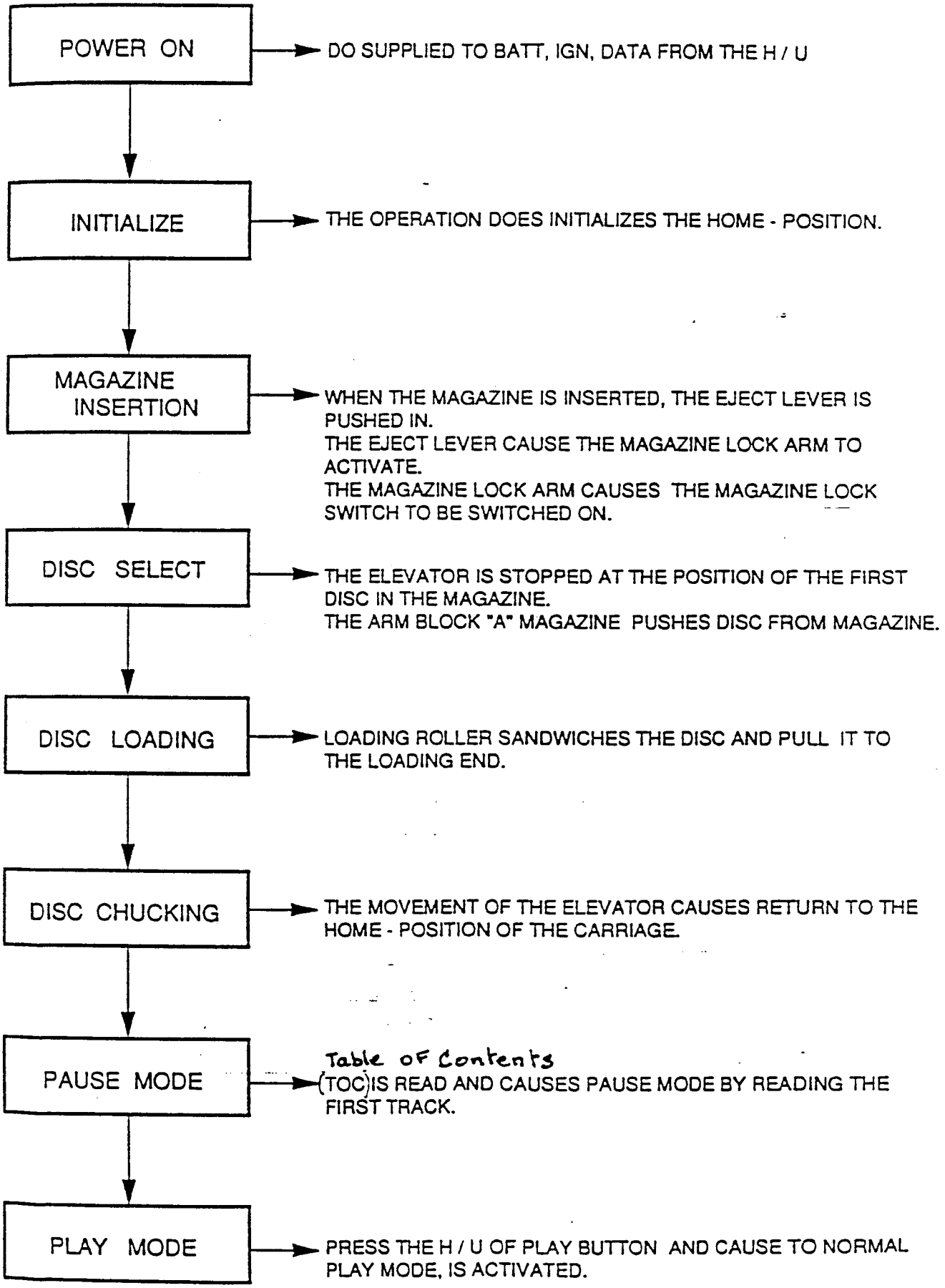
The Principle of Emergency Eject



ERROR DIAGNOSIS FLOW CHART



CD CHANGER BASIC OPERATION



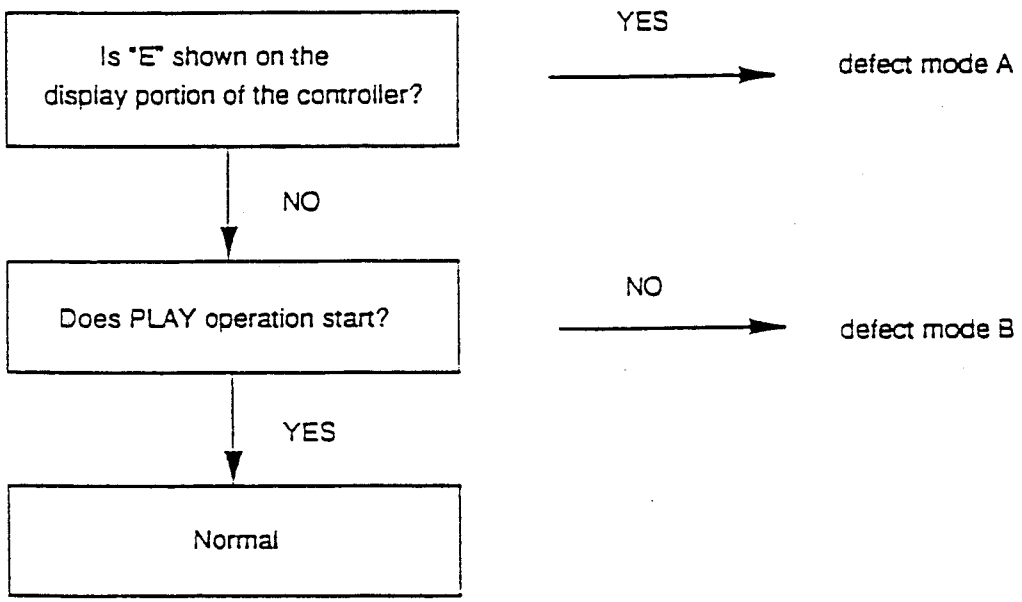
[DR MECHANISM MODEL]

Check Flow Chart

Principle of Operation

1. The magazine is inserted.
2. The elevator motor rotates, and the elevator moves.
3. The loading motor rotates, and the DISC is loaded.
4. The photosensor detects the completion of the loading.
5. The elevator motor rotates, and the DISC is clamped.
6. The home position SW is turned ON.
7. Starts PLAY operation.

Defect Diagnosis Flow Chart



DEFECT MODE A CHECK

[ERROR MESSAGE APPEARS ON THE DISPLAY OF THE CONTROL UNITS]

THE " E " DISPLAYS DUE TO MECHANICAL TROUBLE IN THE CHANGE MECHANISM ARE AS FOLLOWS :

E - 01 ..... THE DISC IS CAUGHT BETWEEN THE MAGAZINE AND THE ROLLER, THEREFORE NEITHER LOADING NOR UNLOADING CAN BE PERFORMED.

DEFECTIVE PT101, PT102, S102.

DEFECTIVE MAGAZINE.

E - 02 ..... THE UNLOADING CANNOT BE PERFORMED WITHIN 3 ATTEMPTS.

DEFECTIVE PT101, PT102.

DEFECTIVE MAGAZINE, DEFECTIVE DISC ROLLER PRESS FITTING.

E - 06 ..... DISC CHANGING CANNOT BE COMPLETED WITHIN 3 SECONDS.

DEFECTIVE PT103, S103, PT101.

DISLOCATION OF ELEVATOR ADJUSTMENT.

E - 07 .... EJECTION CANNOT BE PERFORMED WITHIN WITHIN 3 ATTEMPTS.

DEFECTIVE S102, S104.

MECHANISM STACK - LOADING MOTOR GEAR LOCK.

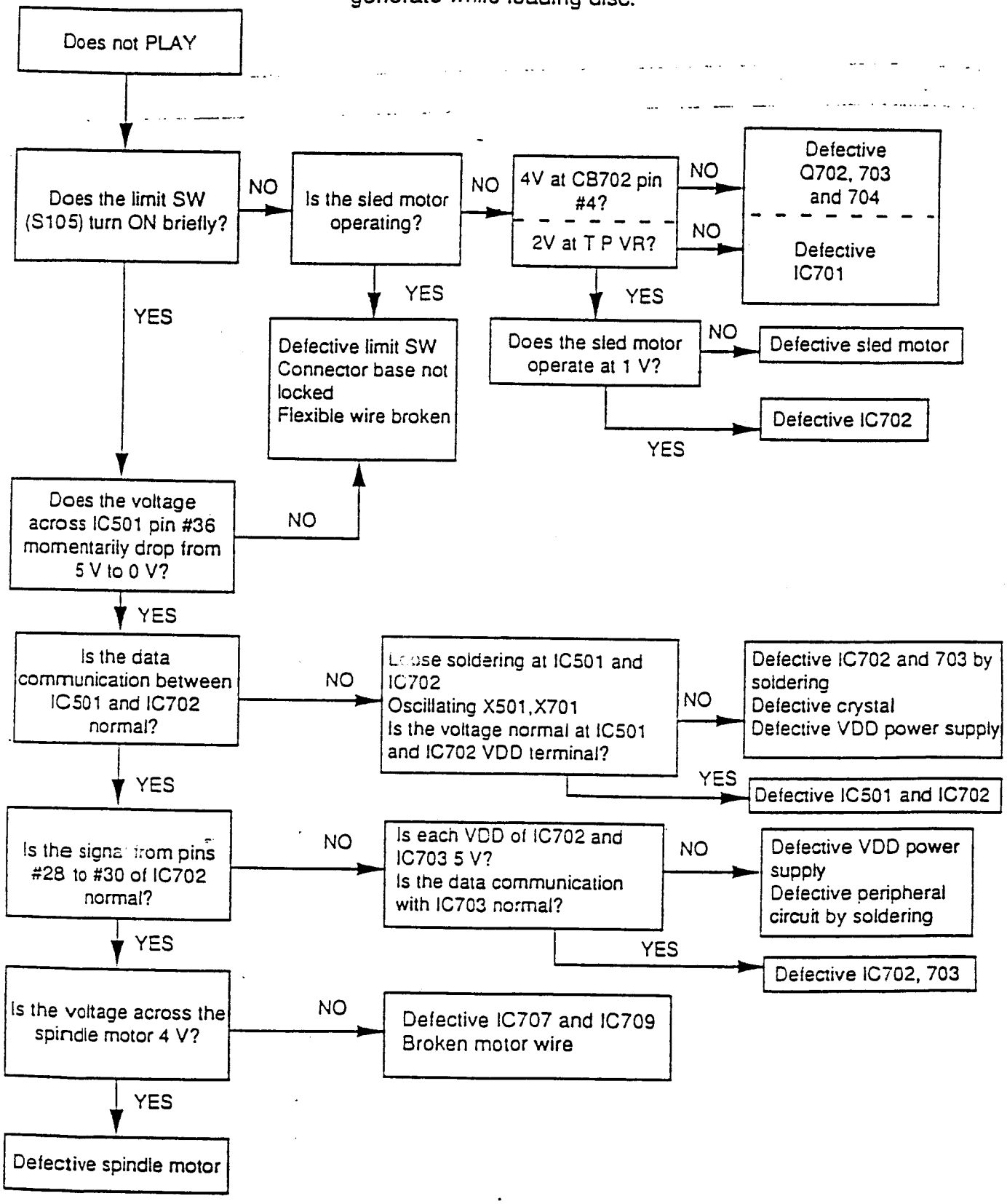
* UNLOADING OPERATION : THE RETUMING OF THE DISC TO THE MAGAZINE.

= EMERGENCY EJECT METHOD =

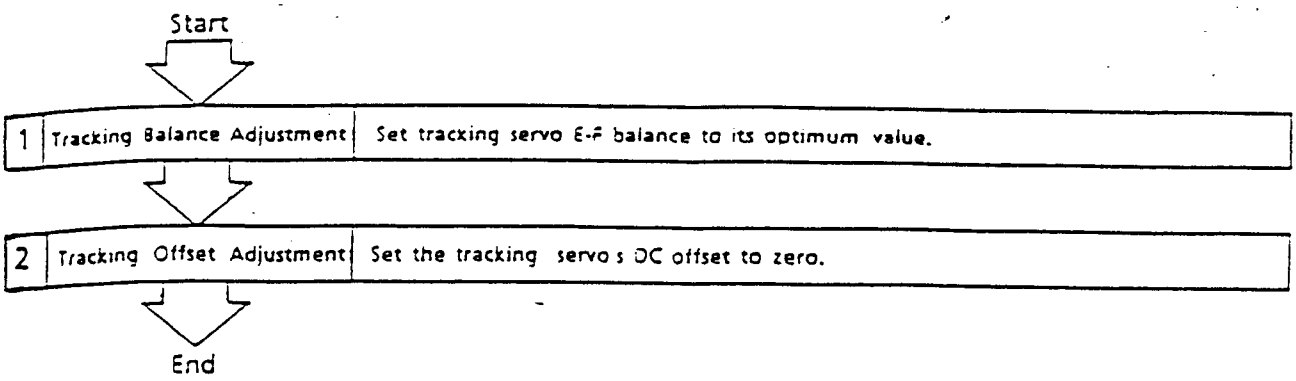
IF THE MAGAZINE CANNOT BE EJECTED FROM THE CHANGER, FOLLOW THE INSTRUCTIONS DESCRIBEDIN THE SEPARATE SHEET.

Defect Mode B

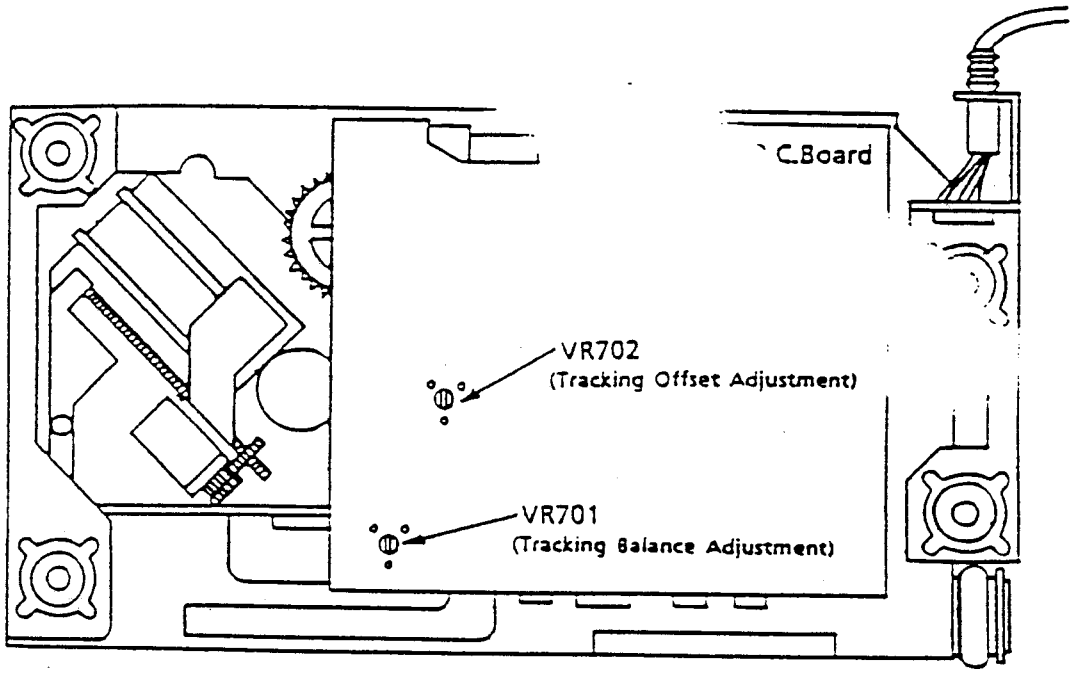
* Indicated voltages in this flow-chart generate while loading disc.



1. Adjustment Process



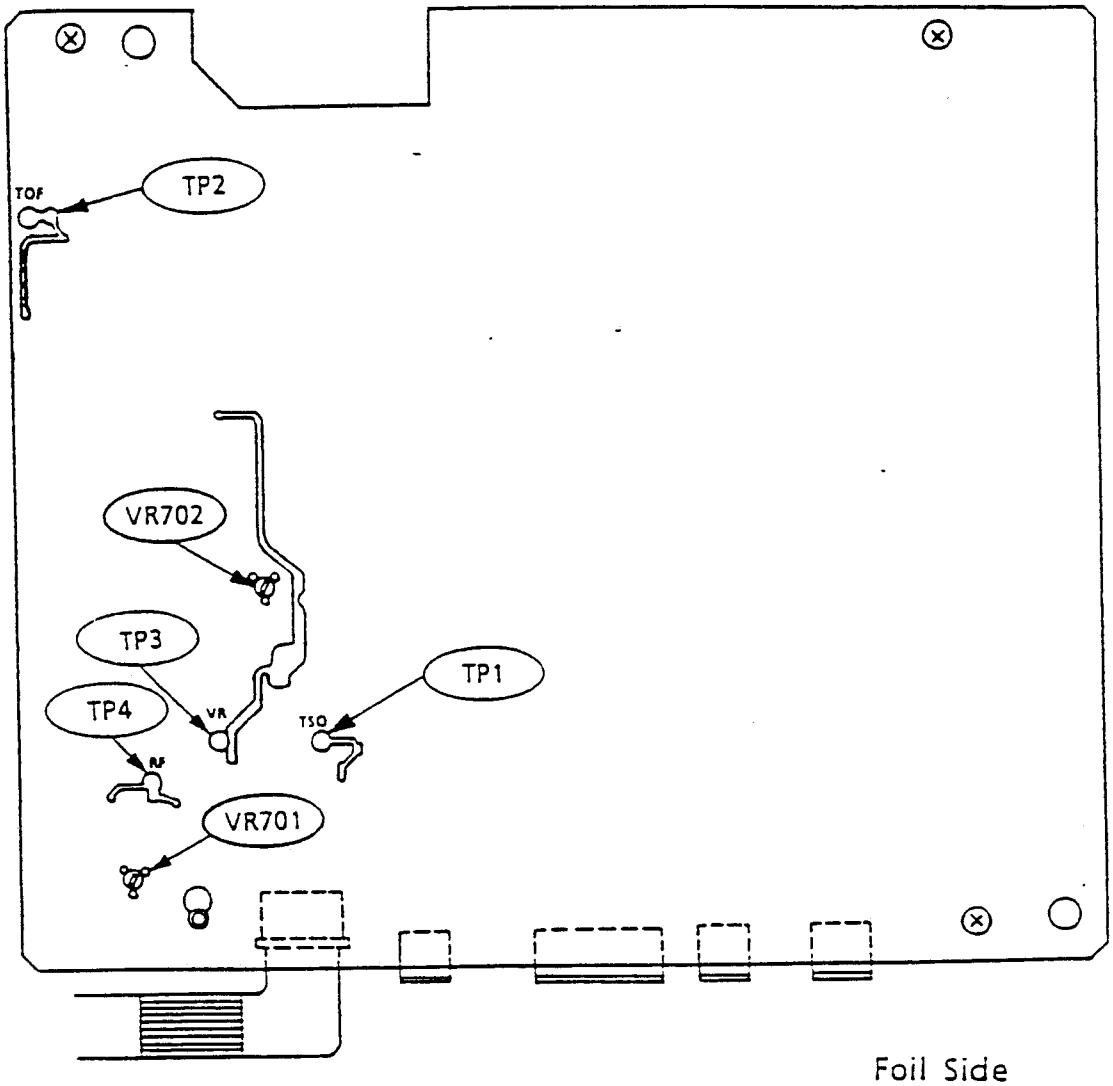
2. Adjustment Locations



3. The necessaries for adjustment

(1) Measuring meter	① Oscilloscope
(2) CD Soft	① CD on which non-signal (- ∞ dB) is recorded. Ex) A-BEX TCD - 782 : TNo.8 SONY YEDS - 18 : TNo.7 ② Test CD with 1.2 mm scratch. Ex) A-BEX TCD - 721 : TNo.6
(3) Others	① Wire : 1 pc. (L : about 100mm) ② Minus adjusting screw driver for high-frequency

4. Test point (Main P.C.Board)



Foil Side

Sensor Status When Error Occurred To The [illegible] CD Changer

Perform the repair work based on the following information when the 5952 CD Changer is brought in for repair or service because the error indicator appeared during operation of the 5952 using the 7390 or 5953 controller.

1) Table of Relations between Error Indication and Fault Detecting Sensors

Error Indication	DISCP	DOKSW	LODSW	DSCIN	ARMSW	MAGSW	HMPSW	Cause of Error
E-01	—	X	X	X	X	—	—	A disc is caught in between the CD magazine and the roller, and neither the loading function nor the unloading function is possible.
E-02	—	X	X	X	—	—	—	Unloading operation has been tried 3 times, but unloading of the disc is not possible.
E-03	—	X	X	X	—	—	—	Unloading operation has been tried for 3 seconds, but unloading of the disc is not possible.
E-04	—	X	X	X	—	—	—	Loading operation has been tried for 3 seconds, but loading of the disc is not possible.
E-05	—	—	—	—	X	—	—	After completion of the disc loading or unloading, the loading arm-detector switch does not turn off for 3 seconds.
E-06	X	—	—	—	—	—	X	Disc changing operation does not finish within 3 seconds.
E-07	—	—	—	—	X	X	—	Eject operation has been conducted 3 times, but the CD magazine can not be ejected.

"–" means the sensor is working properly.
"X" means the sensor appears to be defective.

2) Sensor Explanations

Sensor	Switch function for detecting:
DISCP	The disc position (PHOT).
DOKSW	Whether the disc is housed into the CD magazine (PHOT).
LODSW	Whether the disc is loaded into the carriage (PHOT).
DSCIN	Whether any disc is contained inside the carriage (PHOT).
ARMSW	The loading arm status for pulling out the disc from the CD magazine.
MAGSW	Whether the CD magazine is being inserted into the 5952.
HMPSW	Whether the carriage has moved to the home position.

3) Conditions for Completion of Disc Loading/Unloading Operation

The judgment on completion of the disc loading/unloading is made by the 3 sensors, i.e. DOKSW, LODSW and DSCIN.

	DOKSW	LODSW	DSCIN
Conditions for loading completion	OFF(L)	ON(H)	ON(H)
Conditions for unloading completion	OFF(L)	OFF(L)	OFF(L)

- If DSCSW is OFF, LODSW is ON and DSCIN is ON within 3 seconds after starting the loading operation, the loading error indicator (E-04) will appear.
- If DSCSW is OFF, LODSW is OFF and DSCIN is OFF within 3 seconds after starting the unloading operation, the error indicator (E-03) will appear.
- If the unloading operation has been repeated 3 times and the disc is not possible to be accommodated into the CD magazine, the error indicator (E-02) will appear.
- If the loading operation and unloading operation have been repeated 3 times and the disc is not possible to be pulled into the carriage or the CD magazine, the error indicator (E-01) will appear.
- If the loading arm-switch has not become OFF(L) within 3 seconds after the loading had been completed within 3 seconds or judgment had been made on the unloading function completion, the error indicator (E-05) will appear.

4) Conditions for Completion of Disc Ejection

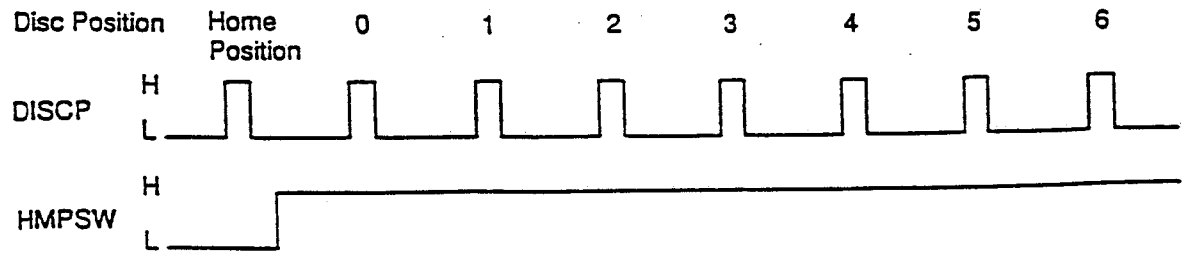
The judgment on the completion of disc ejection is made by the 2 switches, ARMSW and MAGSW.

	ARMSW	MAGSW
Conditions for completion of ejection	OFF(L)	OFF(H)

- If the 2 sensor switches, ARMSW and MAGSW, have not become OFF, the error indicator (E-07) will appear.

5) Conditions for Completion of Disc Change

The judgment on the completion of disc change is made by counting the number of pulse from DISCP (PHOT Interrupter).



- If the pulse from DISCP has not been input for the period of 3 seconds during the disc change process, the error indicator (E-06) will appear.

Adjustment Procedures

1 Tracking Balance Adjustment

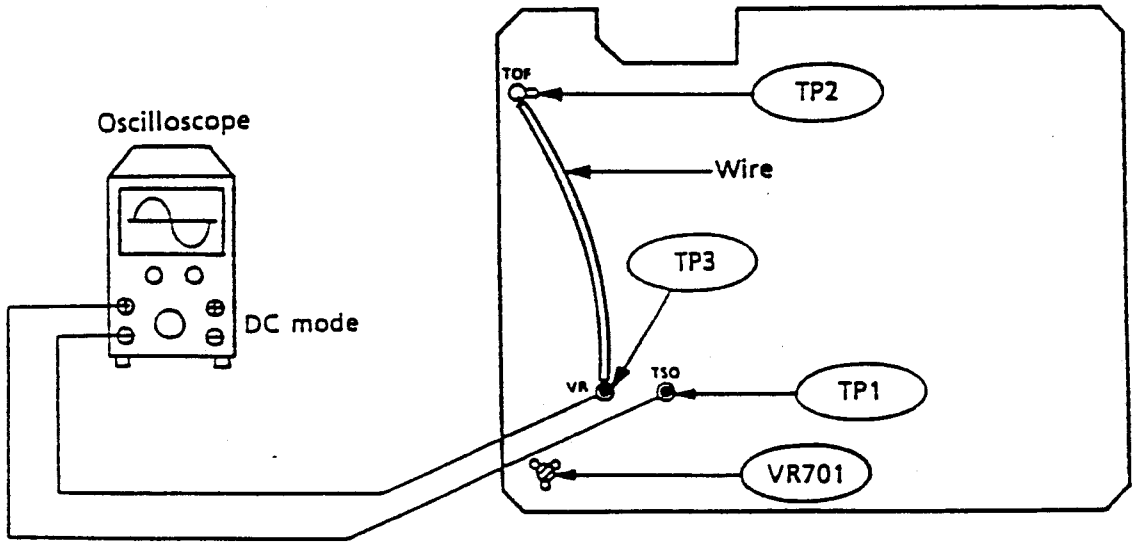
○ Purpose
Set tracking servo E-F balance to its optimum value.

○ Symptoms that may develop when adjustment is incomplete.
- Searching for the start of tunes is slow.

○ Measuring meter
○ CD Soft
○ Others

- Oscilloscope
- CD on which non-signal (- ∞ dB) is recorded.
- Minus adjusting screw driver for high-frequency (not conducting)
- Wire : 1 pc. (L : about 100mm)

○ Connections



○ Process

1. Load magazine into the DR mechanism, select the test CD, and play "non-signal (- ∞ dB) track."
2. Use wire to connect TP2 to TP3. only during measuring time
3. Connect oscilloscope (+) to TP1, and (-) to TP3.
4. Using the oscilloscope, measure the TP1 signal in reference to VR. (VR standard = 0V)
5. Adjust VR701 so that the positive and negative deflection widths of the TP1 signal are at the same level, relative to VR (0V). (The entire wave form moves up and down.)
6. Remove the wire connecting TP2 to TP3.

Ex) A-BEX TCD-782 : TNo.8
SONY YEDS-18 : TNo.7

- If you are using a multichannel oscilloscope, be sure to open unused channels.

V1 = V2

2 Tracking Offset Adjustment

○ Purpose

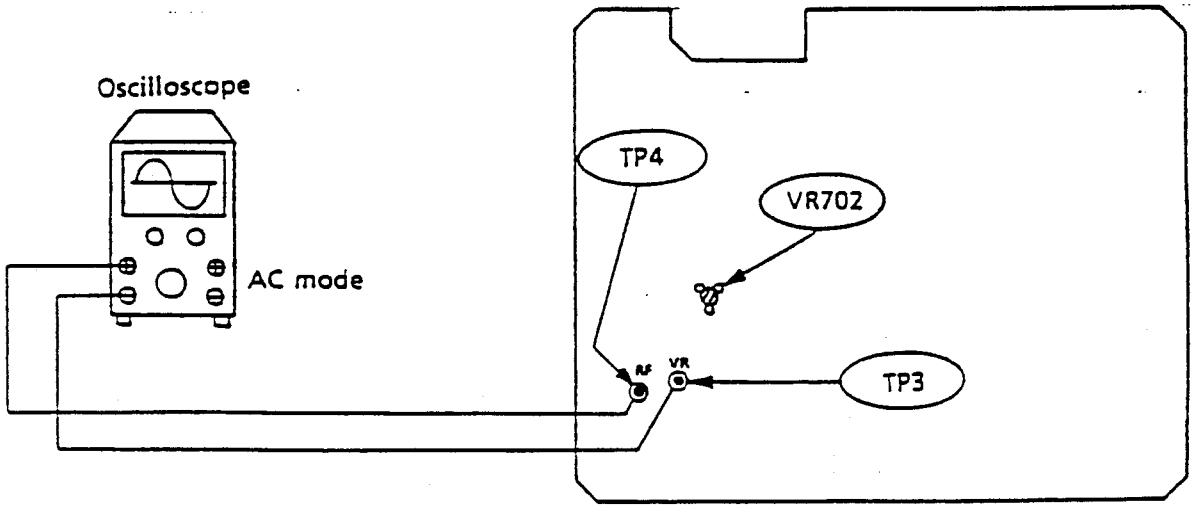
Set the Tracking servo's DC offset to zero.

○ Symptoms that may develop when adjustment is incomplete.

- Scratched CD causes sound to be skipped

○ Measuring meter	• Oscilloscope
○ CD Soft	• Test CD with 1.2 mm scratch.
○ Others	• Minus adjusting screw driver for high-frequency

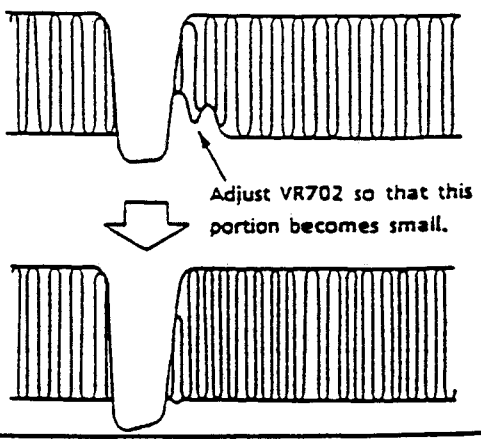
○ Connections



○ Process

1. Connect Oscilloscope (+) to TP4, and (-) to TP3.
2. Load magazine into the DR mechanism, select the test CD, and play "1.2 mm track scratch".
3. Using the oscilloscope, measure the TP4 signal.
4. Adjust VR702 in order to minimize the waveform induced by the reaction to the omission of the TP4 signal.
5. Readjust the tracking balance.

Ex) A·BEX TCD-721 : TNO.6



CD CHANGER	ELEVATOR HEIGHT ADJUSTMENT METHOD

1. Gist :

When the following condiitions are encountered, it is necessary to perform elevator height adjustment.

(1) The disc is caught and cannot be removed from the magazine.
(2) The disc cannot be put back into the magazine, etc.

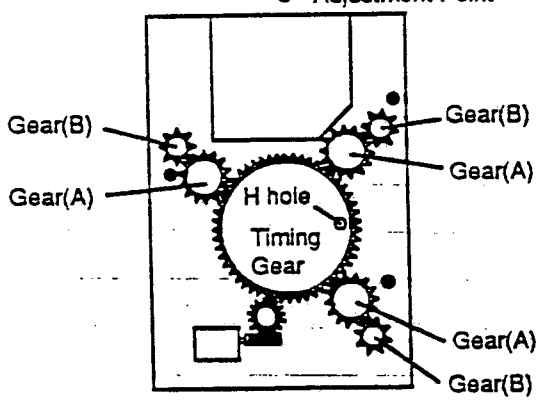
2. Adjustment Procedures :

(1) Remove the outside covers and Main P.C.Board.
(2) Lift up the elevator to 6th disc position by rotating the Timing Gear, and then align the H hole of the Timing Gear with the hole in RIVET chassis.
(3) Remove the three Gears(A).
(4) Insert the three Adjustment Jigs into the three places between the CR chassis and the RIVET chassis. (The shaded portion in Figure 1.)
(5) Rotate the three Gears(B) and adjust the elevator height so that the three Jigs fit between the CR chassis and the RIVET chassis and move smoothly.
(6) When the position of three Gears(B) is decided, install the three Gears(A) not to move the Timing Gear and the three Gears(B).
(7) Replace all parts that were removed and perform an operational check.

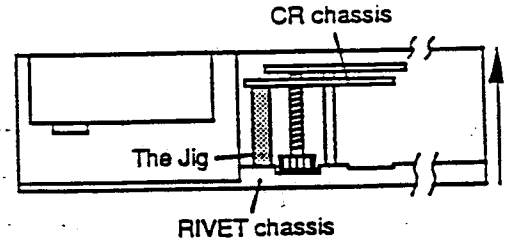
3. Parts Used :

Parts Name	Parts No.	Remarks
Height Adjustment Jigs	47E08353S01	3 PIECES
Lock washers	04A41345P04	should be exchanged
E rings	04C42091G11	should be exchanged

Figure 1. ● Adjustment Point

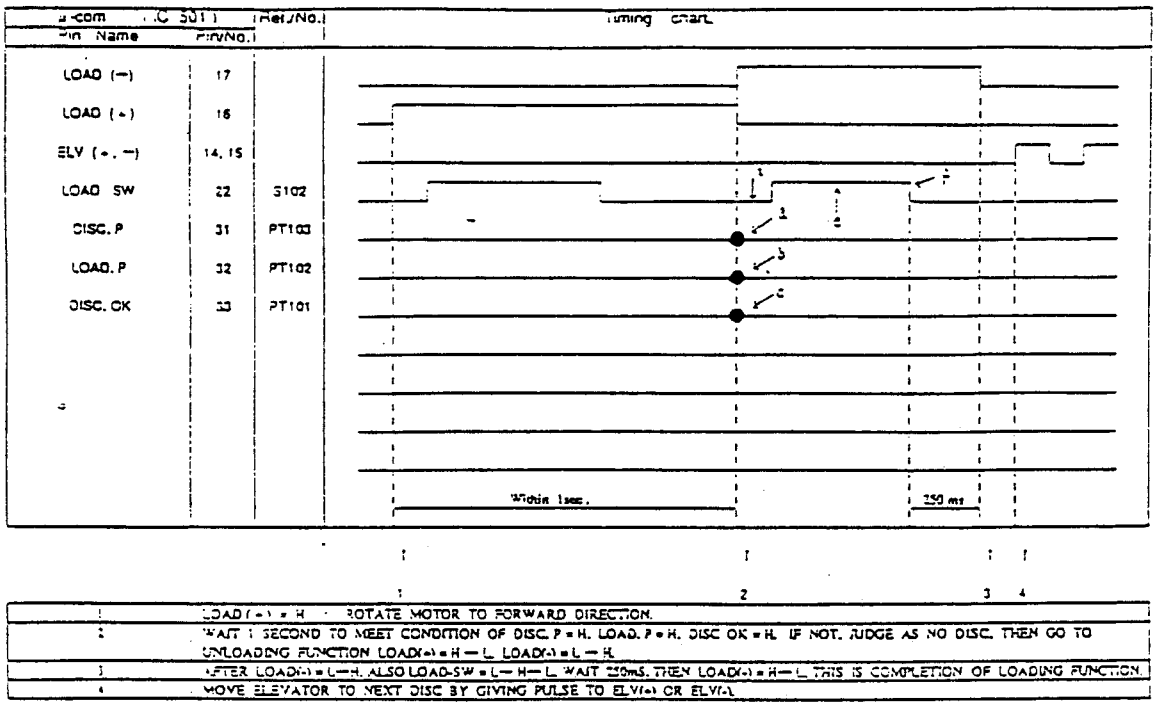


JIG HEIGHT 27,7 mm.



HOW TO USES THE TIMING CHART

DR : 3 DISC LOADING (WITHOUT DISC)



① THE FIGURES UNDER THE DIAGRAM SHOWS WHERE μ-COM READS DATA FROM SENSOR.

② DIAGRAM-2 DESCRIBS DETAILS OF PROCESS OF μ-COM OR EACH POSITION

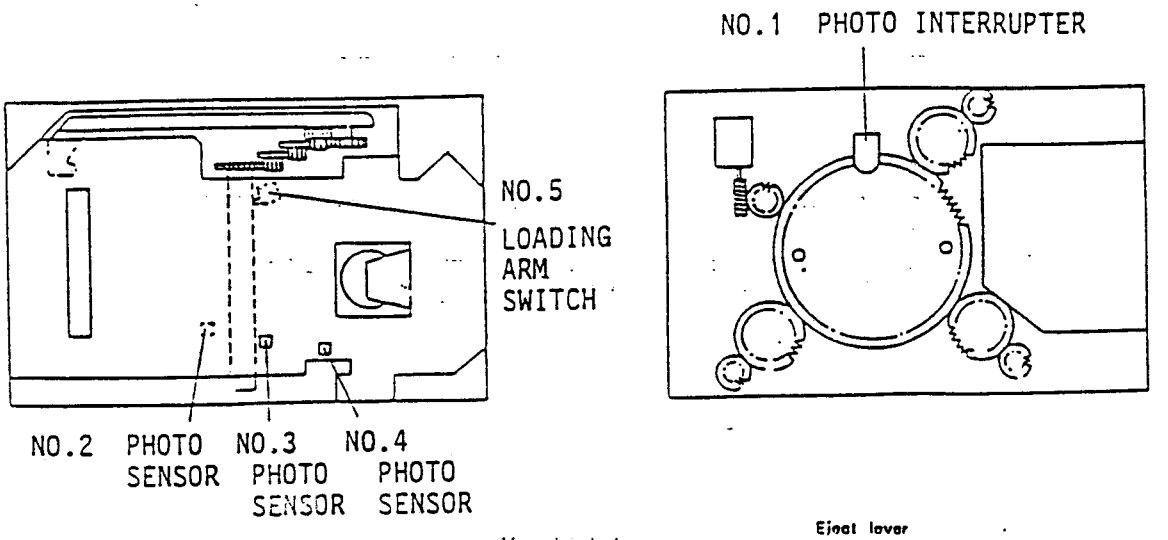
EX : HOW TO READ THE DIAGRAM

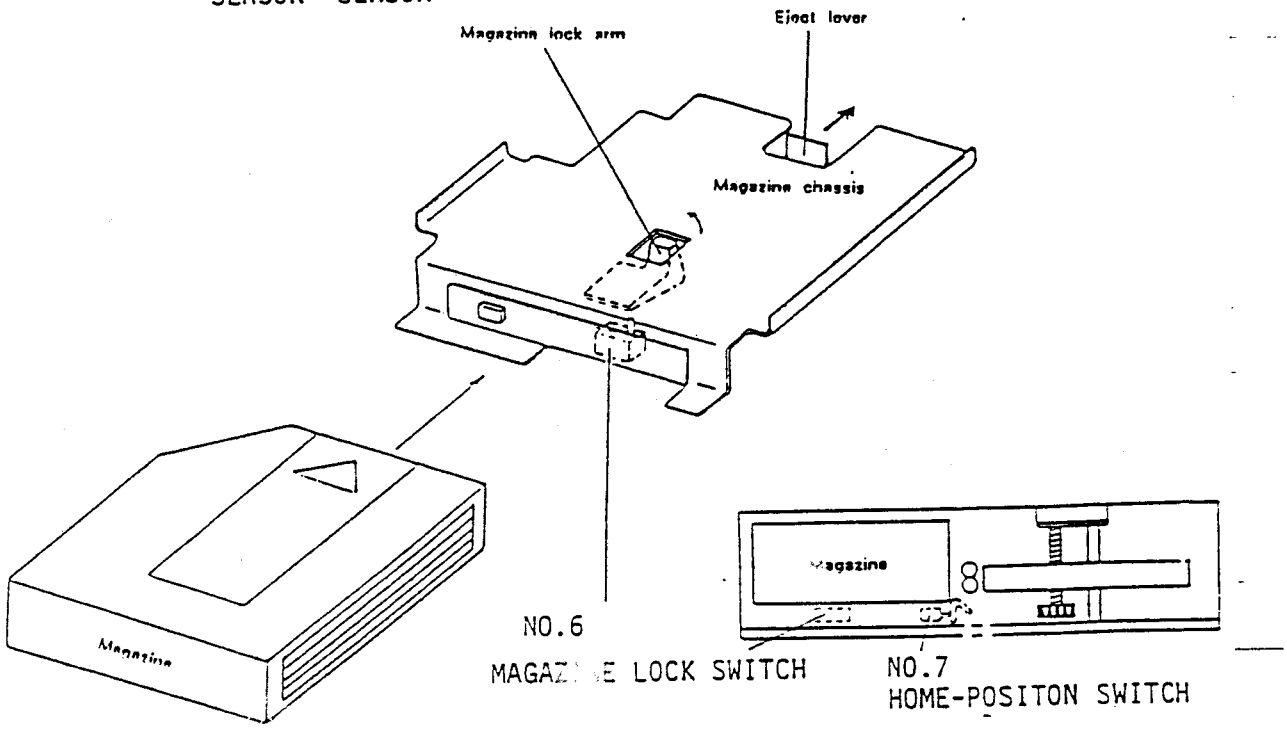
1. POINT1 : INDICATES THAT LOAD (+) (μ-COM #16) HAVE BECOME TO 5V.
2. IN ARE SEC, AFTER LOAD (+) BECOMES 5V, μ-COM CHECKS CHANGE OF VOLTAGE AT a , b AND c (μ-COM #31 , 32 AND 33).
   IF VOLTAGE AT a , b AND c ARE UNCHANGED IN ONE SEC, μ-COM JUDGES THAT THE DISC IS NOT INSERTED AND THEN VOLTAGE AT LOAD (+) IS CHANGED TO 0V. ALSO VOLTAGE AT LOAD(-) IS CHANGED TO 5V (UNLOADING OPERATION IS ACTIVATED)
3. POSITION 2 : μ-COM WAITS UNTIL LOAD (-) BECOMES 5V. ALSO LOAD-SW CHANGES TO L — H — L (d , e ,f)
4. POSITION 3 : 250ms AFTER THE ABOVE CONDITIONS ARE COMPLETED, LOAD (-) BECOMES 0V AND THEN, UNLOADING OPERATION IS FINISHED.
5. POSITION 4 : WHEN ELV (+) OR ELV (-) (μ-COM #14 OR 15) HAS A PULSE, THE MOVES TO THE NEXT DISC POSITION.

6) Function after Error Indication

Error Indication	Function after Error Indication
E-01	• No function at all.
E-02	• Pulls in the disc into the carriage and moves to the home position, then waits for signal from the eject key. • When the eject key is pressed, ejects the CD magazine leaving the disc inside the 5952 mechanism.
E-03	• Loads the disc into the mechanism again and performs the unloading operation again. • If the disc cannot be unloaded after performing the unloading operation 3 times, the error indicator (E-02) will appear.
E-04	• Performs the operation of the next disc and the error indicator E-04 will disappear.
E-05	• Performs the disc unloading operation in the disc loading mode; performs the disc loading operation in the disc unloading mode. • After the disc loading/unloading operation has been performed 3 times and the loading arm-switch has not become OFF, the error indicator (E-01) will appear.
E-06	• Waiting for signal from the eject key. • When the eject key is pressed, the mechanism moves the carriage to the home position and then ejects the CD magazine • If any disc is left inside the 5952 mechanism after performing the eject operation, the error indicator changes to "E-02." If no disc is left inside the 5952 mechanism, the eject display ("– –") will appear and the "E-06" indicator will disappear.
E-07	• Waiting for signal from the eject key. • When the eject key is pressed, the mechanism performs the eject operation again. • If the CD magazine is not ejected when the eject operation has been conducted 3 times again, the error indicator (E-07) will appear.

SENSOR POSITION





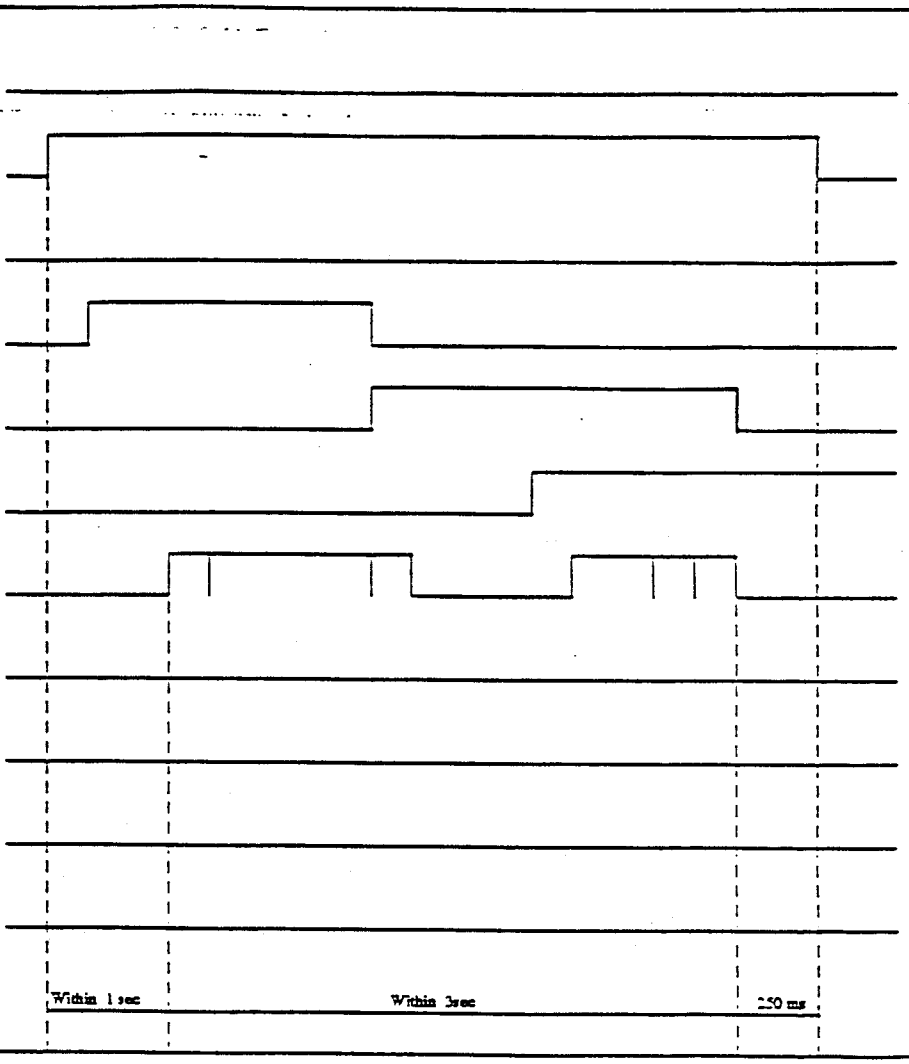
Sensor	Switch function for detecting:	NO.
DISCP	The disc position (PHOT).	1
DOKSW	Whether the disc is housed into the CD magazine (PHOT).	2
LODSW	Whether the disc is loaded into the carriage (PHOT).	3
DSCIN	Whether any disc is contained inside the carriage (PHOT).	4
ARMSW	The loading arm status for pulling out the disc from the CD magazine.	5
MAGS	Whether the CD magazine is being inserted into the 5952.	6
HMPS	Whether the carriage has moved to the home position.	7

TIMING CHART FOR DR MECHANISM

(1) DISC LOADING (WIDTH DISC)

μ-com (IC 501) Pin Name	Pin No.	Ref. No.
LOAD (−)	17	
LOAD (+)	16	
ELV (+, −)	14, 15	
LOAD SW	22	S102
DISC. P	32	PT103
LOAD. P	31	PT102
DISC. OK	33	PT101

Timing chart.



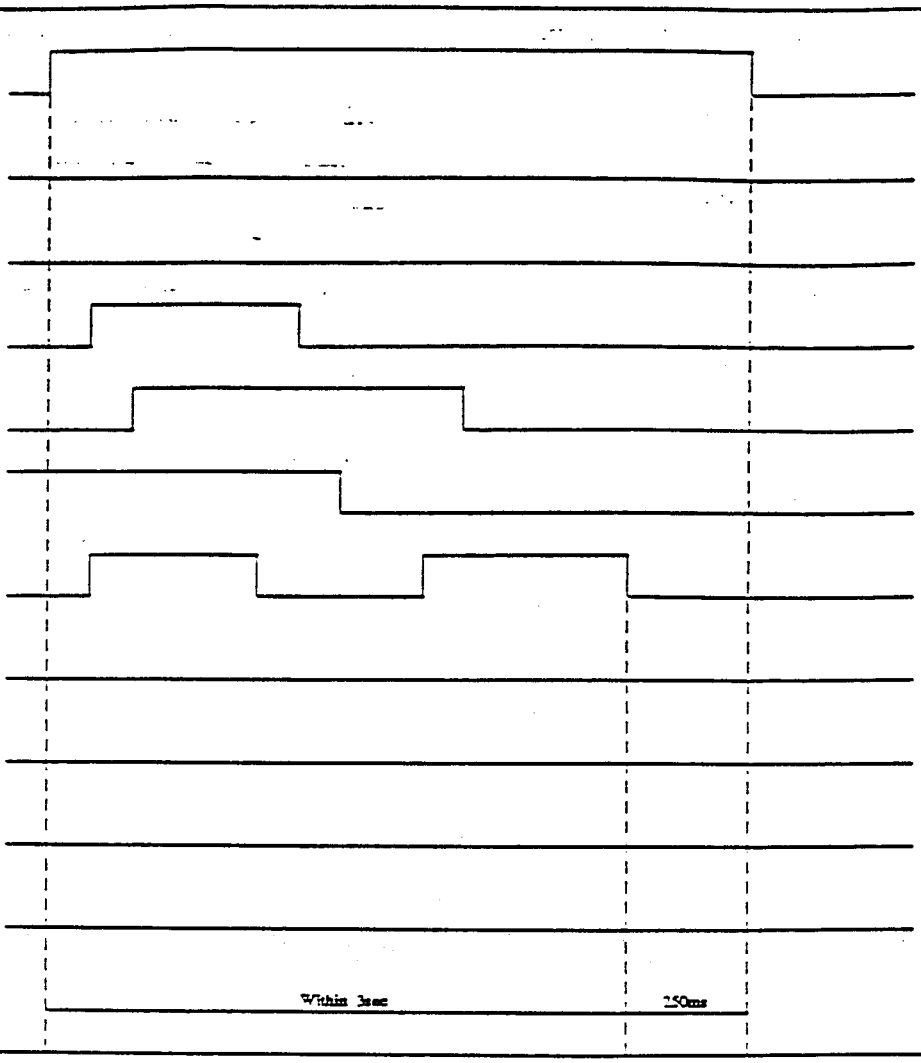
1 2 3 4

SEQUENCE OPERATION

1	PIN 16: LOADING MOTOR ACTIVATION (FORWARD DIRECTION)
2	DISC UNLOADED FROM MAGAZINE AND DETECTED BY PT101 WITHIN 1 SECOND (DISC OK="H").
3	PROCESSOR CONDITIONS CHANGE AFTER 3 SECONDS: PIN 33 "L" PIN 32="L" PIN 31="H" PIN 22="L"
*	IF CONDITIONS ARE NOT MET WITHIN 3 SECONDS, THE DISC WILL UNLOAD.
4	AFTER SEQUENCE NUMBER 3 IS COMPLETED, THE PROCESSOR WAITS 250ms, THEN THE PIN 16 GOES "L".

(2) DISC UNLOADING

μ-com (IC 501) Pin Name	Pin No.	Ref. No.	Timing chart.
LOAD (−)	17		
LOAD (+)	16		
ELV (+, −)	14, 15		
LOAD SW	22	S102	
DISC. P	32	PT103	
LOAD. P	31	PT102	
DISC. OK	33	PT101	



1 2 3

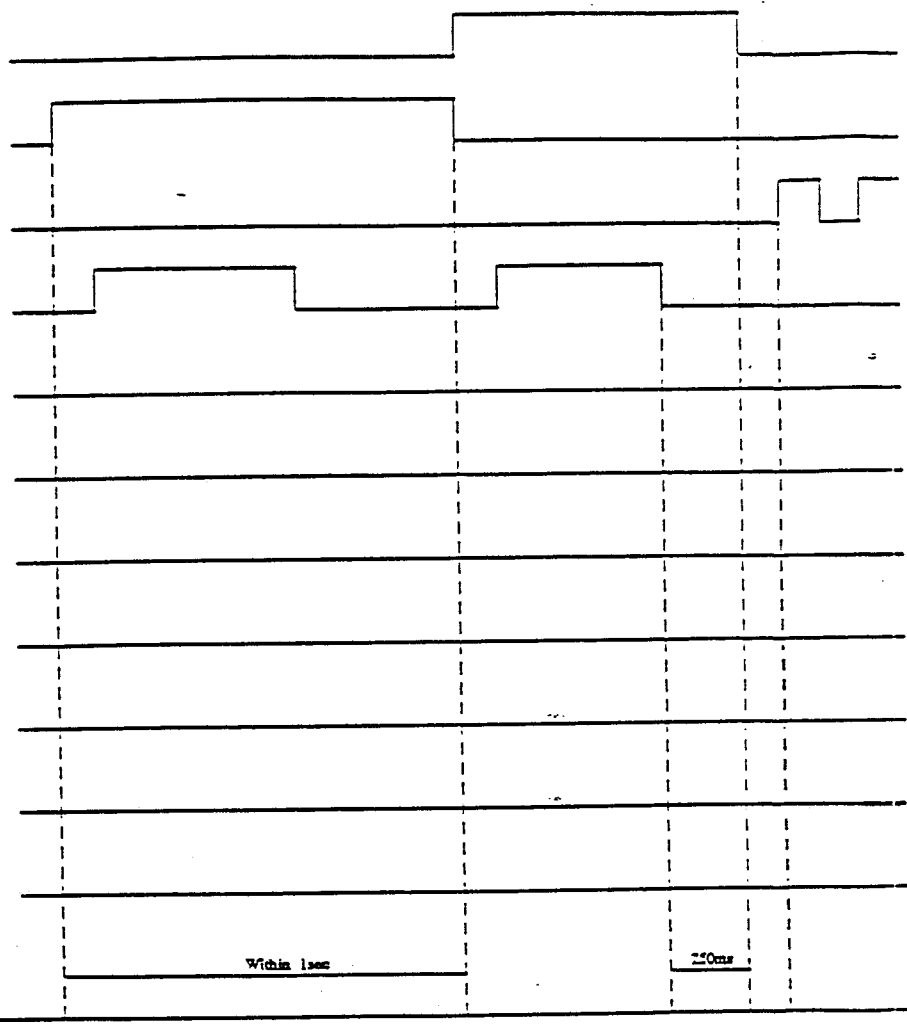
SEQUENCE OPERATION

1	PIN 17="H":LOADING MOTOR ACTIVATION (REVERSE DIRECTION)
2	PROCESSOR CONDITIONS CHANGE AFTER 3 SECONDS: PIN 33="L" PIN 32="L" PIN 31="L" PIN 22="L"
3	AFTER SEQUENCE NUMBER 2 IS COMPLETED.THE PROCESSOR WAITS 250 ms. THEN PIN 1 GOES "L" IF CONDITION ARE NOT MET WITHIN 3 SECONDS.THE DISC WILL RELOAD AND THE UNLOADING SEQUENCE WILL BE REPEATED.
*	AFTER 3 UNSUCCESSFUL ATTEMPTS TO UNLOAD.THE DISPLAY WILL INDICATE "E-02" THEN MOVE THE ELEVATOR TO THE HOME POSITION.
*	UNLOADING CONDITIONS COMPLETE: PIN 31="L" PIN 32="L" PIN 33="L" PIN 22="L"

(3) DISC LOADING (WITHOUT DISC)

μ-com (IC 501) Pin Name	Pin No.	Ref. No.
LOAD (−)	17	
LOAD (+)	16	
ELV (+, −)	14, 15	
LOAD SW	22	S102
DISC. P	32	PT103
LOAD. P	31	PT102
DISC. OK	33	PT101

Timing chart.



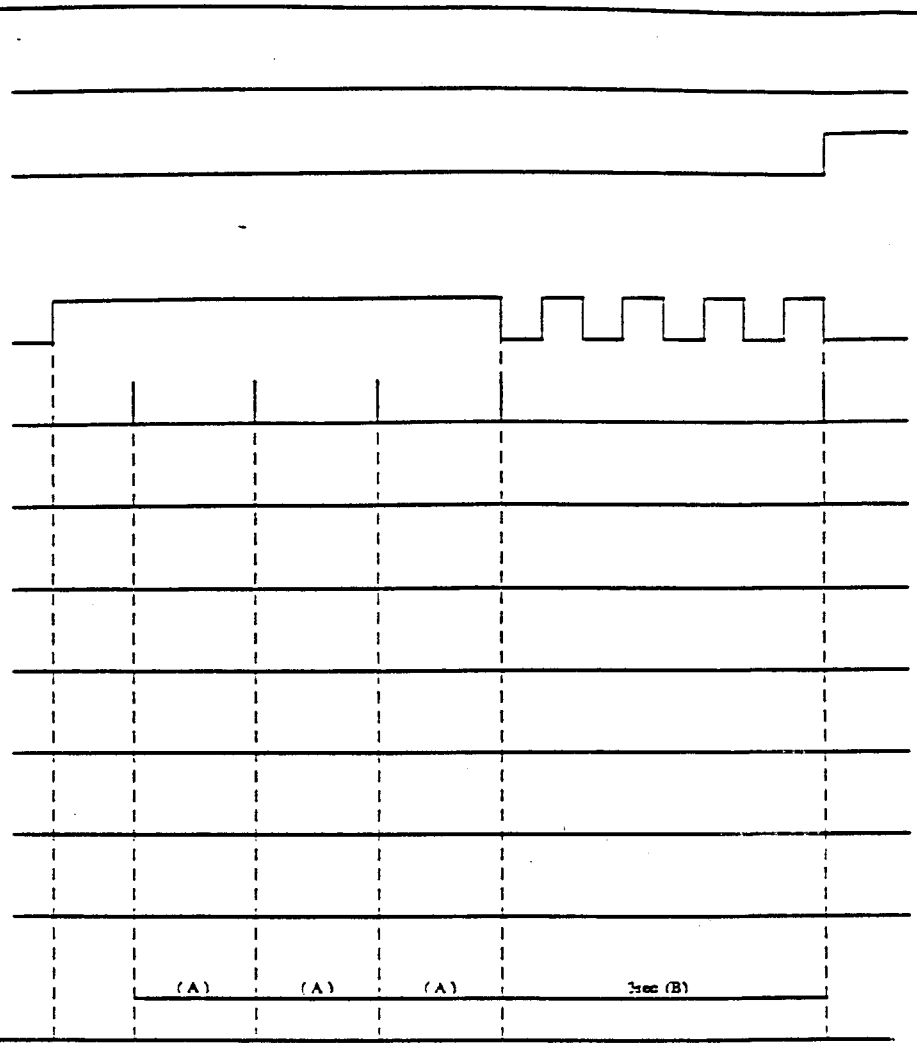
1 2 3 4 5

SEQUENCE OPERATION

1	PIN 16="H": LOADING MOTOR ACTIVATION (FORWARD DIRECTION)
2	THE PROCESSOR WAITS ! SECOND TO MEET CONDITION OF: PIN 32="H" PIN 31="H" PIN 33="H"
*	IF CONDITIONS ARE NOT MET THE PROCESSOR JUDGES A NO DISC CONDITION THEN THE UNLOADING CYCLE IS ACTIVATED. PIN 17 GOES "L" TO "H" . PIH 16 GOSE FROM " H " TO " L "
3	AFTER PIN 17 GOES FROM "L" TO "H",THE PROCESSOR WAITS 250ms.THEN PIN 17 GOES FROM " H " TO " L ". THIS IS THE COMPLETION OF THE LOADING CYCLE.
4	THE ELEVATOR MOVES TO THE NEXT DISC SLOT IN THE MAGAZIN.DURING THIS SEQUENCE. THE PROCESSOR APPLIES A STEADY PLUSE TO PIN 14 OR PIN 15.

(4) DISC CHANGE

μ-com (IC 501) Pin Name	Pin No.	Ref. No.	Timing chart.
LOAD (−)	17		
LOAD (+)	16		
ELV (+)	14		
DISC NO	30	PT 101	



1 2 3

SEQUENCE OPERATION

1	PIN 17 OR PIN 16 IS HELD "H" (DEPENDING ON THE ELEVATORS DIRECTION) UNTIL THE ELEVATOR IS AT ONE DISC SLOT POSITION AHEAD OF THE TARGET DISC.
2	AFTER THE ELEVATOR HAS REACHED THE PROPER POSITION,THEN A PULES IS APPLIED TO PIN 14 OR PIN 15.
3	AFTER THE ELEVATOR REACHES THE TARGET DISC,THEN PIN 14 OR PIN 15 GOES FROM A "H" TO 'L' CONDITION.
*	IF NO SIGNAL FOR 1 SECOND FROM DISC# SENSOR(A), THEN DISPLAY WILL INDICATE "E-06".
*	IF NO SIGNAL FOR 3 SECOND FROM DISC# SENSOR(B), THEN DISPLAY WILL INDICATE "E-06".

Disassembly Instructions

<CD Mechanism>

1. **Removal of Pick-Up Unit**
   (1) Remove three screws marked "○" as shown in Figure 1.
2. **Removal of Sled Motor**
   (1) After removal of the pick-up unit, remove the motor bracket with sled motor by removing the solder (A) and two screws marked "×" as shown in Figure 1.
   (2) Remove the solder (B) and a screw marked "□" as shown in Figure 1.
3. **Removal of Head Unit**
   (1) After removal of the motor bracket, remove the shaft bracket and the screw bracket by removing two screws marked "△" as shown in Figure 1.

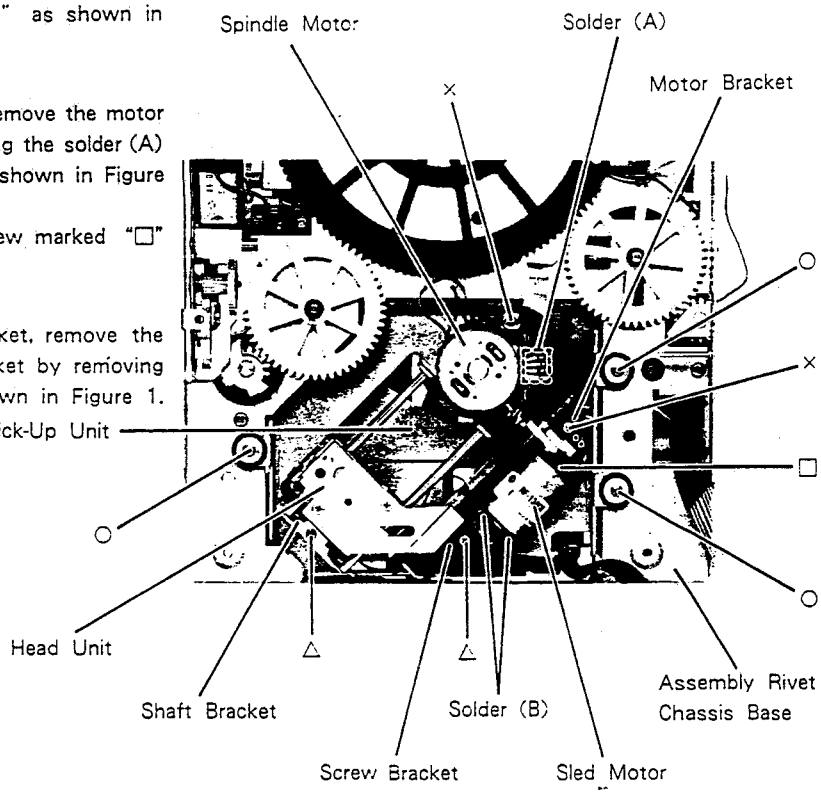


Figure 1

4. **Removal of LED P. C. Board**
   (1) Remove two screws marked "●" as shown in Figure 2.
5. **Removal of Switch P. C. Board**
   (1) Remove a screw marked "▲" as shown in Figure 2.
   (2) Remove the hook (A) as shown in Figure 2.

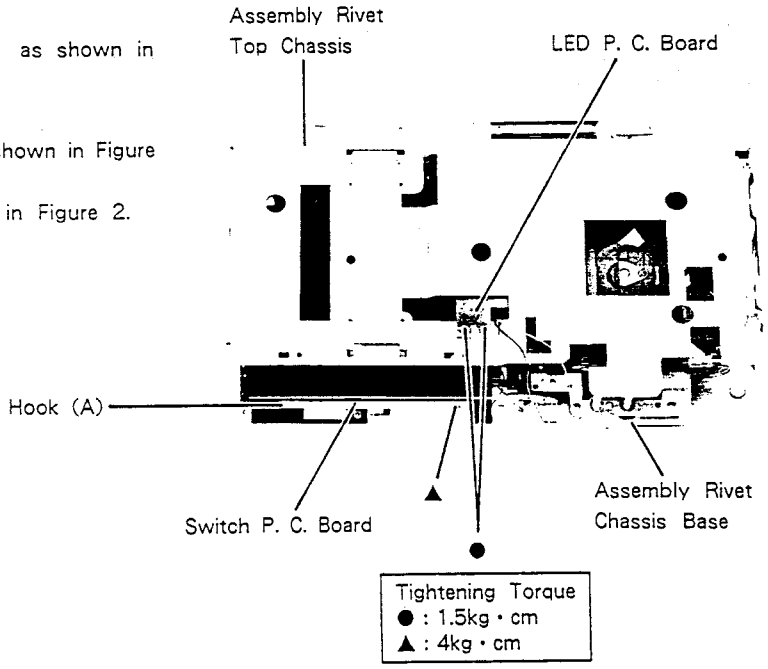


Figure 2

6. **Removal of Assembly Rivet Chassis CR**

(1) After remove the Assembly Rivet Top Chassis and the Assembly Rivet Chassis Base, remove seven screws marked "∞" as shown in Figure 3

7. **Removal of Photo P. C. Board**

(1) After picking up the Assembly Rivet Chassis CR, remove the solder (C) as shown in Figure 4.

(2) Remove a screw marked "■" as shown in Figure 4.

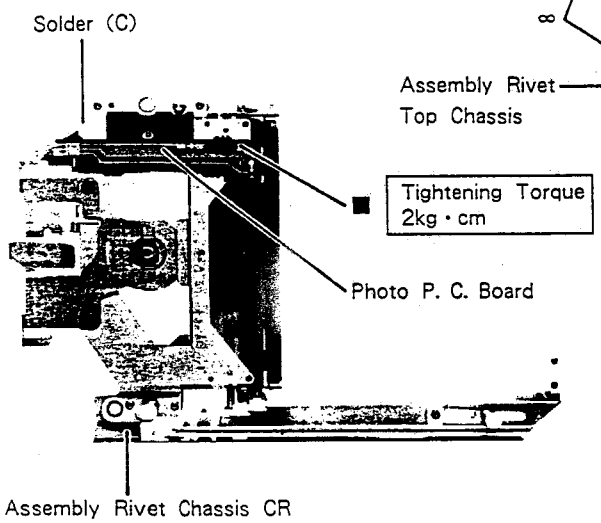


Figure 4

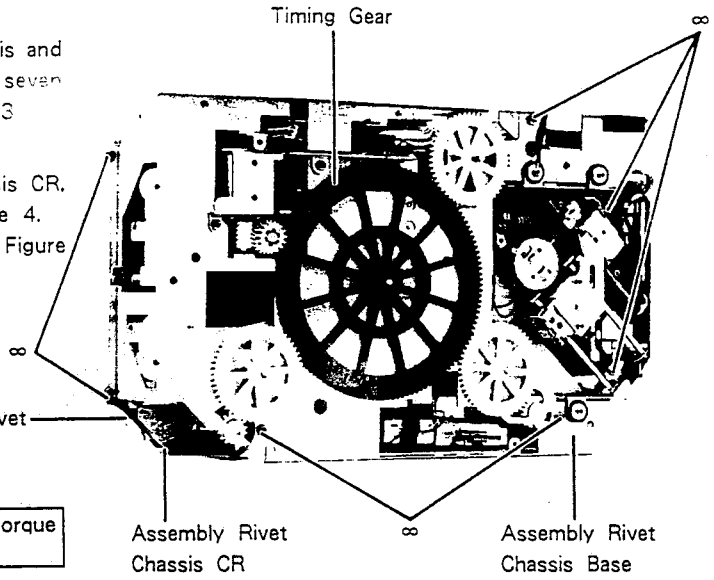


Figure 3

8. **Removal of Sensor P. C. Board**

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (D) and (E) as shown in Figure 5.

(2) Remove two screws marked "☆" as shown in Figure 5.

9. **Removal of Loading Motor**

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (E) as shown in Figure 5.

(2) Remove two screws marked "★" as shown in Figure 5.

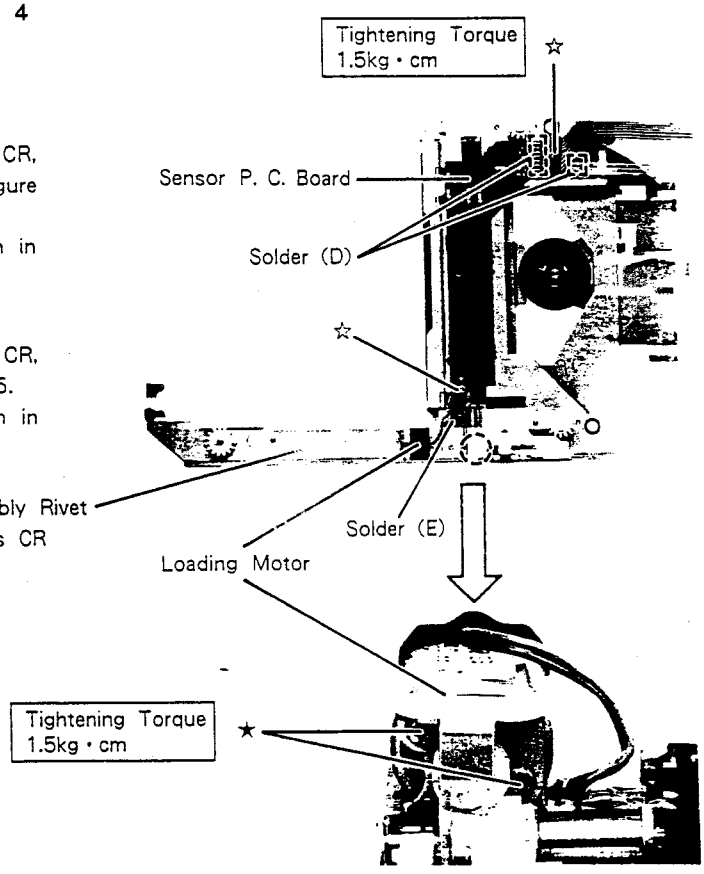


Figure 5

10. Removal of Elevator Motor

(1) After removal of the Assembly Rivet Chassis CR, remove the timing gear by removing the washer (A) as shown in Figure 6.

(2) Remove the Assembly Rivet Bracket Motor by removing two screws marked "◇" as shown in Figure 6.

(3) Remove the solder (F) as shown in Figure 7.

(4) Remove two screws marked "◆" as shown in Figure 6.

11. Removal of Interrupt P. C. Board

(1) After removal of the Assembly Rivet Bracket Motor, remove the solder (F) as shown in Figure 7.

(2) Remove two screws marked "#" as shown in Figure 7.

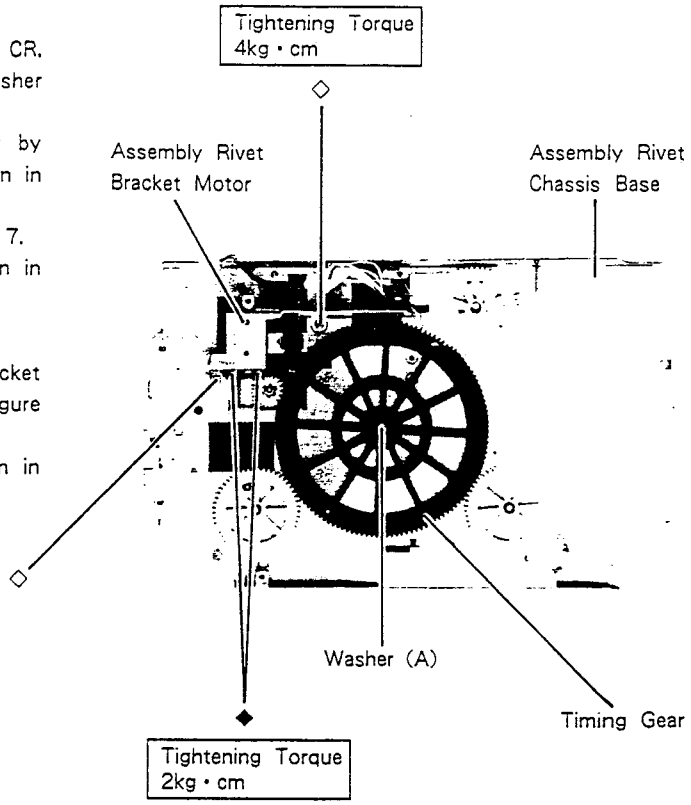


Figure 6

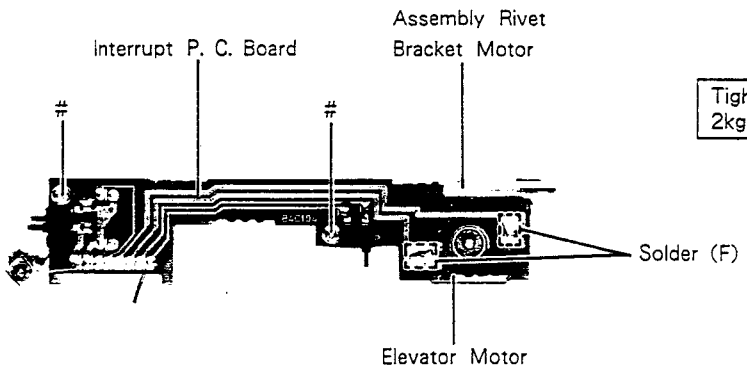


Figure 7

12. Removal of Magazine Photo P. C. Board

(1) After removal of the Assembly Rivet Chassis CR, remove the Assembly Rivet Chassis Magazine by removing four screws marked "※" as shown in Figure 8.

(2) Remove two screws marked "©" as shown in Figure 8.

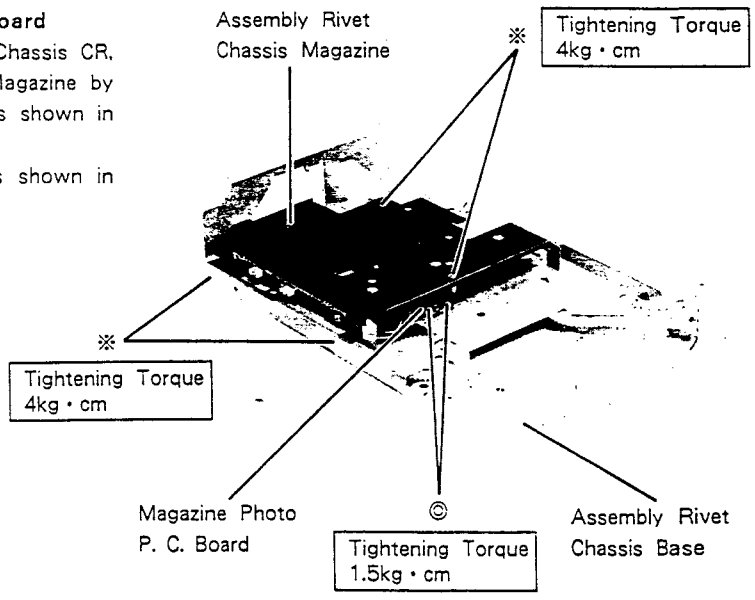


Figure 8

Mechanism Function Description

Function	Step	Description	Illustration
Magazine Inse[illegible]	①	When tne magazine is inserted. the eject lever is pushed in.	Figure 9
	②	The eject lever causes the magazine lock arm to move.	
	③	The magazine lock arm causes the magazine to lock and the magazine lock switch to be switched on.	

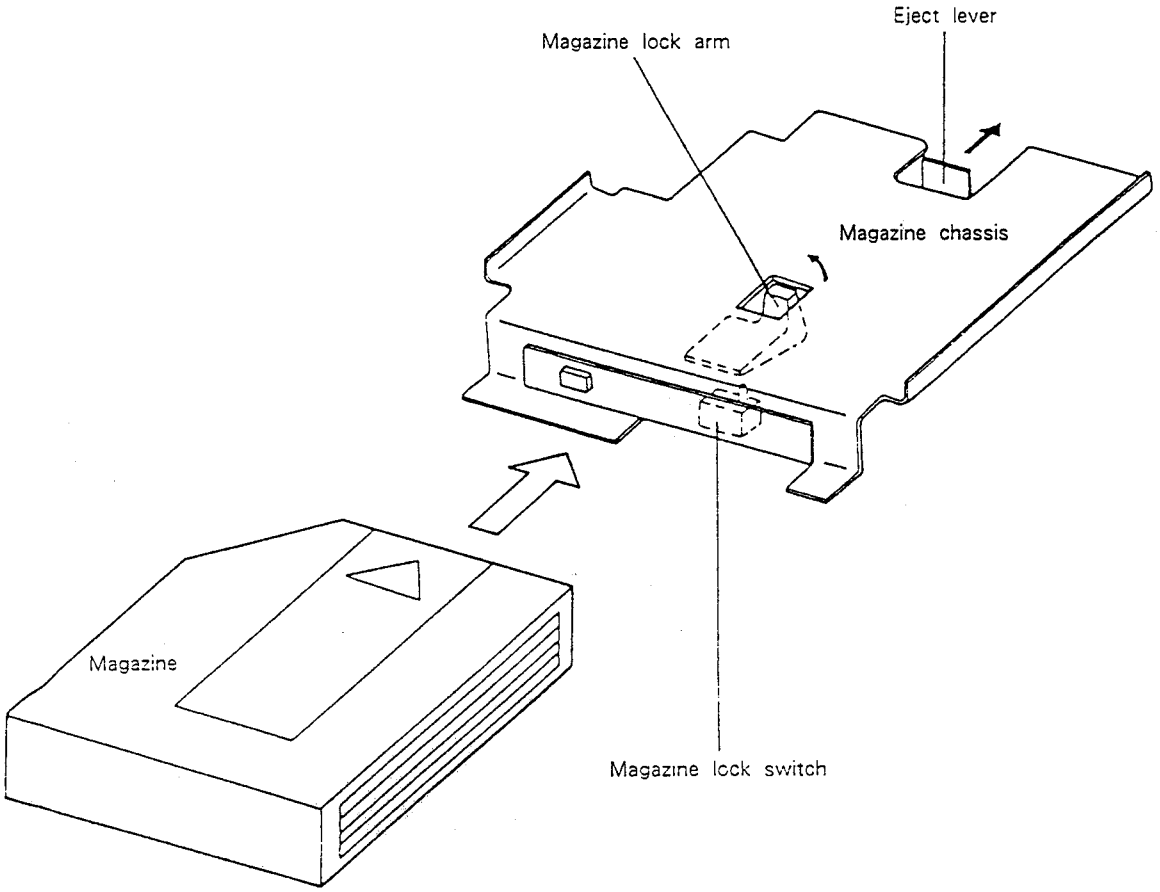


Figure 9

Function	Step	Description	Illustration
Disc Loading	①	The elevator motor rotates.	Figure 10
	②	The rotation is transmitted to gears (A), (B), (C), (D) and (E).	
	③	The CR chassis is moved in the (F) direction by rotation of gear (E).	
	④	The photo-interrupter counts the H-holes on gear (C) to control the movement distance of the CR chassis.	
	⑤	The CR chassis is stopped at the position of the first disc in the magazine. * For the 2nd through 6th discs the movement distance of the CR chassis is the only thing that changes : the operation is the same.	
	⑥	The loading motor rotates. (The loading motor can rotate forward and in reverse.)	
	⑦	The rotation is transmitted to gears (I), (J), (K) and (L).	
	⑧	Simultaneous with the action of Step (7), the rotation is transmitted to gears (I), (J), (M), (N) and (O).	
	⑨	The rotation of gear (L) causes the disc eject lever to make a back-and-forth movement in the (P) and (Q) directions.	
	⑩	The disc eject lever causes the disc to be ejected from the magazine.	
	⑪	Since gear (O) and the feed drive roller are on the same axle, the rotation of gear (O) will cause the feed drive roller to rotate.	Figure 11
	⑫	The disc is sandwiched between the feed drive roller and the free roller and the disc moves in the direction of the clamper.	
	⑬	Photosensors (1), (2) and (3) are consecutively blocked by the disc and finally, only photosensor (3) is a blocked condition.	Figure 10
	⑭	The loading motor stops upon the judgment that the disc has entered.	
	⑮	The elevator motor rotates. (Rotation is in the opposite direction of Step (1). The elevator motor can rotate forward and in reverse.)	
	⑯	The rotation is transmitted to gears (A), (B), (C) and (D).	
	⑰	The rotation of gear (E) causes the CR chassis to move in the (G) direction.	
	⑱	The movement of the CR chassis causes the clamper to move and clamp the disc.	
	⑲	The movement of the CR chassis causes the home-position switch arm to move, and the home-position switch is switched on.	
	⑳	The photo-interrupter counts the H-holes on gear (C), and the elevator motor is stopped upon judgment that the CR chassis has reached the home position.	

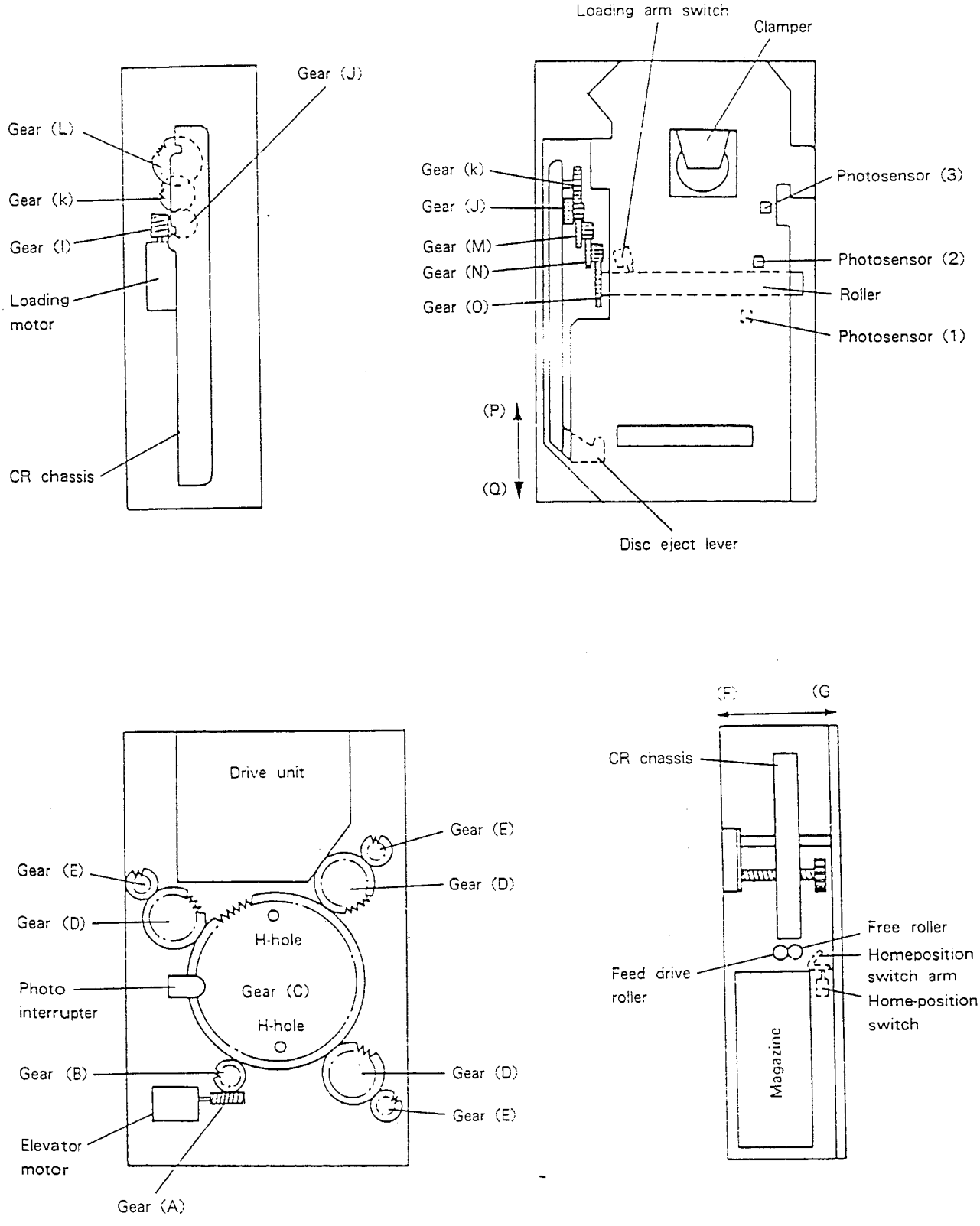

Gear (J)
Gear (L)
Gear (k)
Gear (I)
Loading motor
CR chassis
Loading arm switch
Clamper
Gear (k)
Gear (J)
Gear (M)
Gear (N)
Gear (O)
Photosensor (3)
Photosensor (2)
Roller
Photosensor (1)
(P)
(Q)
Disc eject lever
Drive unit
Gear (E)
Gear (D)
Gear (E)
Gear (D)
H-hole
Photo interrupter
Gear (C)
H-hole
Gear (B)
Gear (D)
Gear (E)
Elevator motor
Gear (A)
(F)
(G
CR chassis
Free roller
Homeposition switch arm
Feed drive roller
Home-position switch
Magazine

Figure 10

Function	Step	Description	Illustration
Magazine Ejection	①	Press the eject switch.	Figure 14
	②	The elevator motor rotates.	Figure 10
	③	The rotation is transmitted to gears (A), (B), (C), (D) and (E).	
	④	The CR chassis is moved in the (G) direction by the rotation of gear (E).	
	⑤	The movement of the CR chassis causes the home-position switch arm to move, and the home-position switch is switched on.	
	⑥	The photo-interrupter counts the H-holes on gear (C), and the elevator motor is stopped upon judgment that the CR chassis has reached the home position.	
	⑦	The loading motor rotates.	
	⑧	The rotation is transmitted to gears (J), (K) and (L).	
	⑨	The rotation of gear (L) causes the disc eject lever to make a back-and-forth movement in the (P) and (Q) directions.	
	⑩	The disc eject lever causes the eject arm to move.	Figure 14
	⑪	The eject arm causes the eject lever to move, the magazine lock arm is released and the magazine is ejected.	
	⑫	The magazine lock switch is switched off and there is a judgment that the magazine has been ejected.	Figure 10

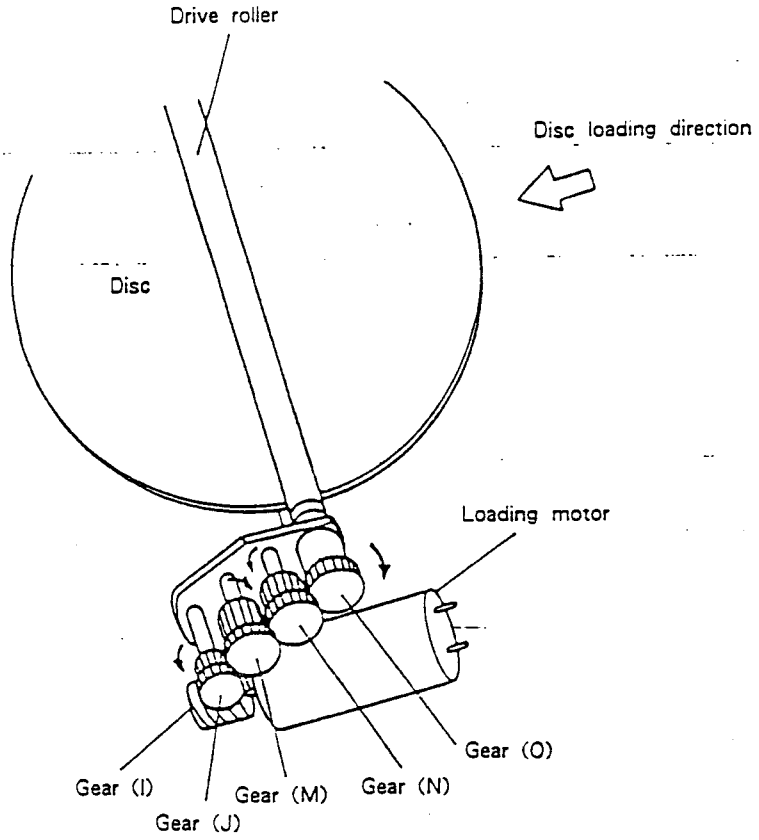


Figure 11

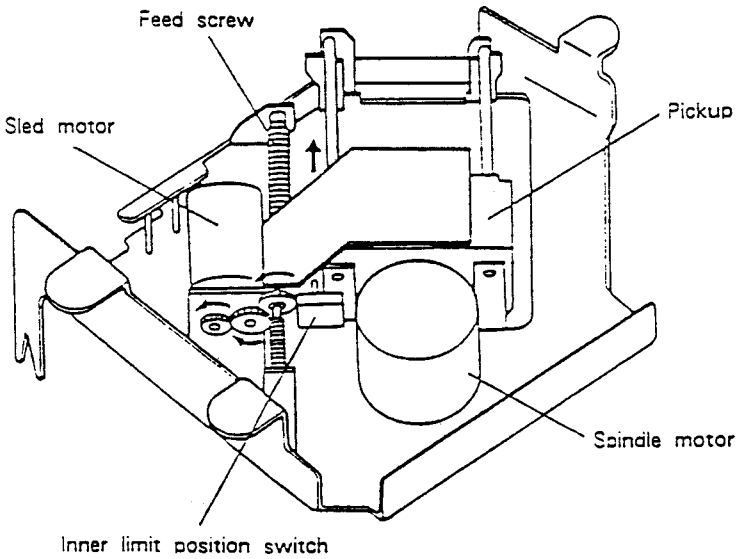


Figure 12

Function	Step	Description	Illustration
Play	①	The spindle motor rotates the disc.	Figure 12
	②	The rotation of the sled motor is transmitted through the gears to the feed screw and causes the pickup to move.	
	③	The lead-in position of the disc is detected by the inner limit position switch and the reading of the disc data begins.	
Return of the disc to the magazine	①	The elevator motor rotates.	Figure 10
	②	The rotation is transmitted to gears (A), (B), (C), (D) and (E).	
	③	The CR chassis is moved in the (F) direction by the rotation of gear (E).	
	④	The clamper is removed.	
	⑤	The photo-interrupter counts the H-holes on gear (C) to control the movement distance of the CR chassis.	
	⑥	The disc is sandwiched between the feed drive roller and the free roller.	
	⑦	The CR chassis is stopped at the position of the first disc in the magazine. ※ For the 2nd through 6th discs the movement distance of the CR chassis is the only thing that changes ∴ the operation is the same.	
	⑧	The loading motor rotates.	Figure 13
	⑨	The rotation is transmitted to gears (I), (J), (M), (N) and (O).	Figure 10
	⑩	The rotation of gear (O) causes the feed drive roller to rotate and to move in the direction of the disc magazine.	
	⑪	Blockage of photosensor (3) by the disc is cancelled.	
	⑫	The movement of the disc blocks photosensors (2) and (1) and cancels the blocking.	
	⑬	The blocking of photosensor (1) is cancelled and the disc is judged to have been housed in the magazine.	
	⑭	The loading motor stops.	

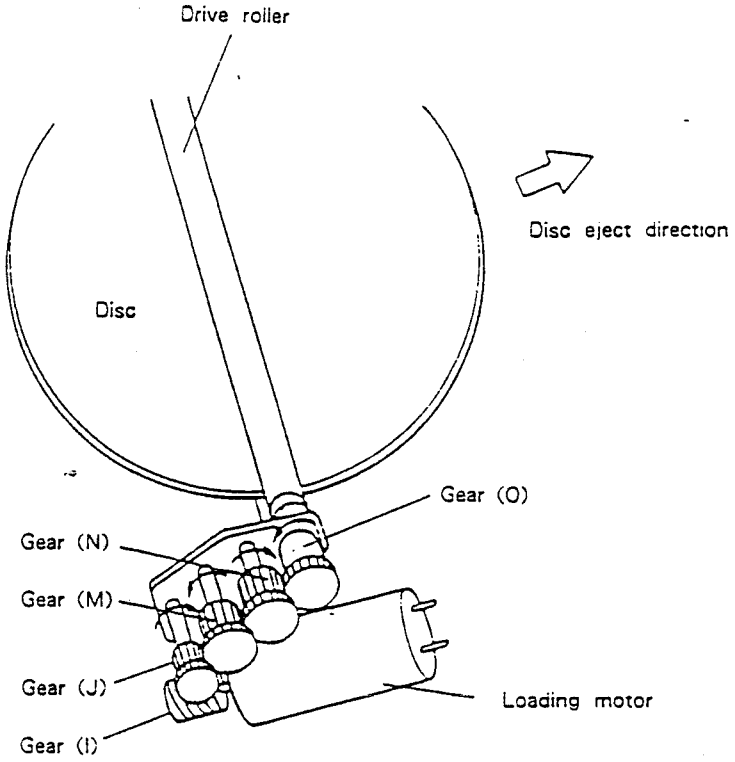


Figure 13

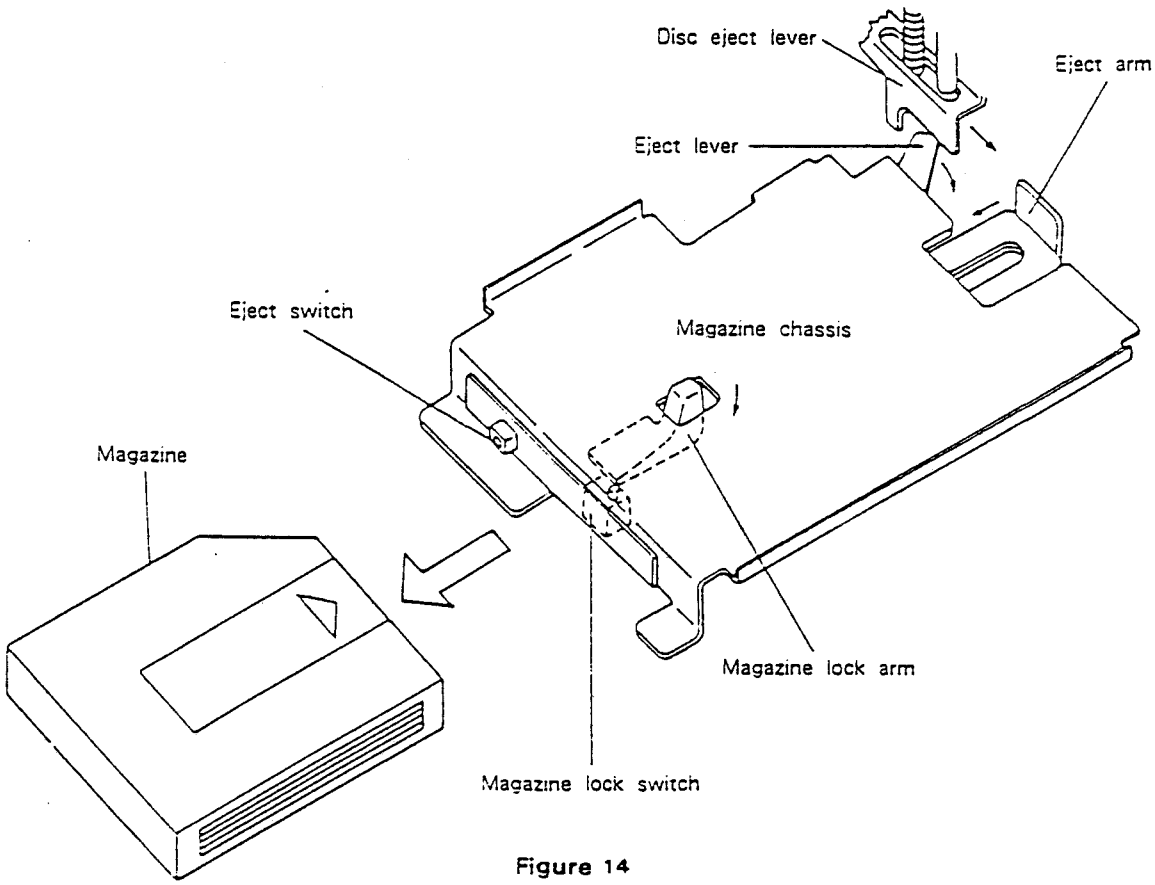
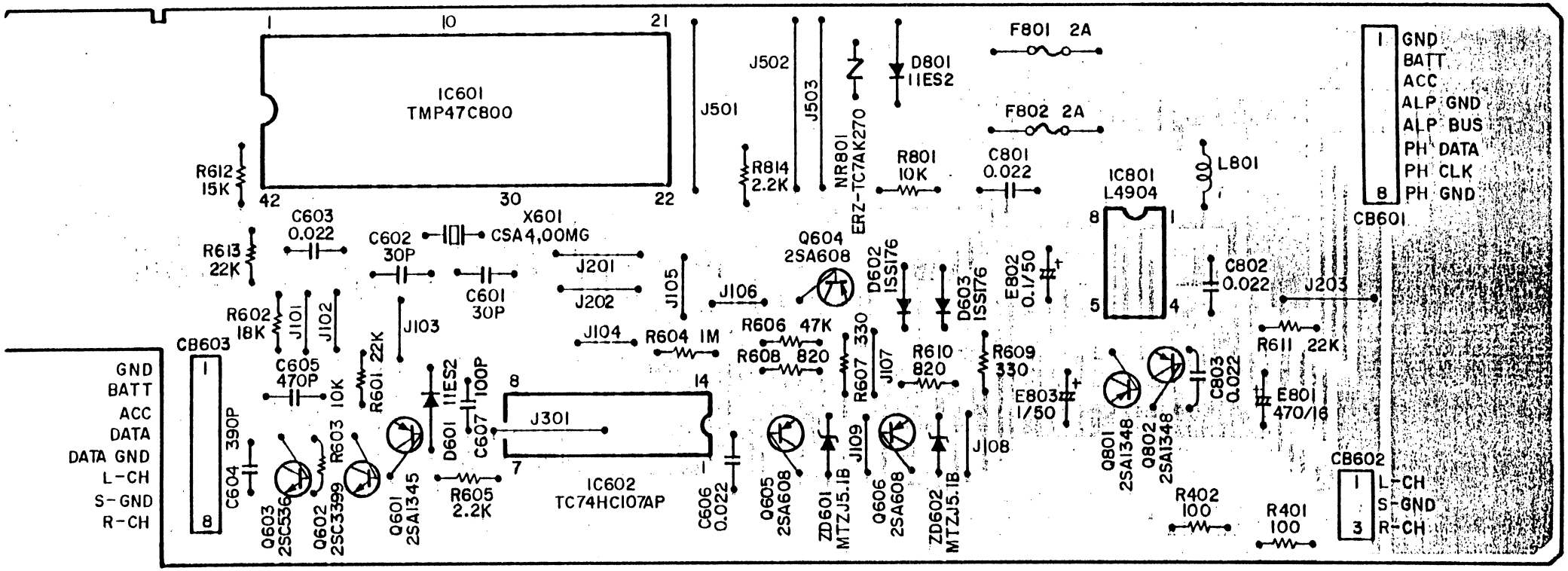
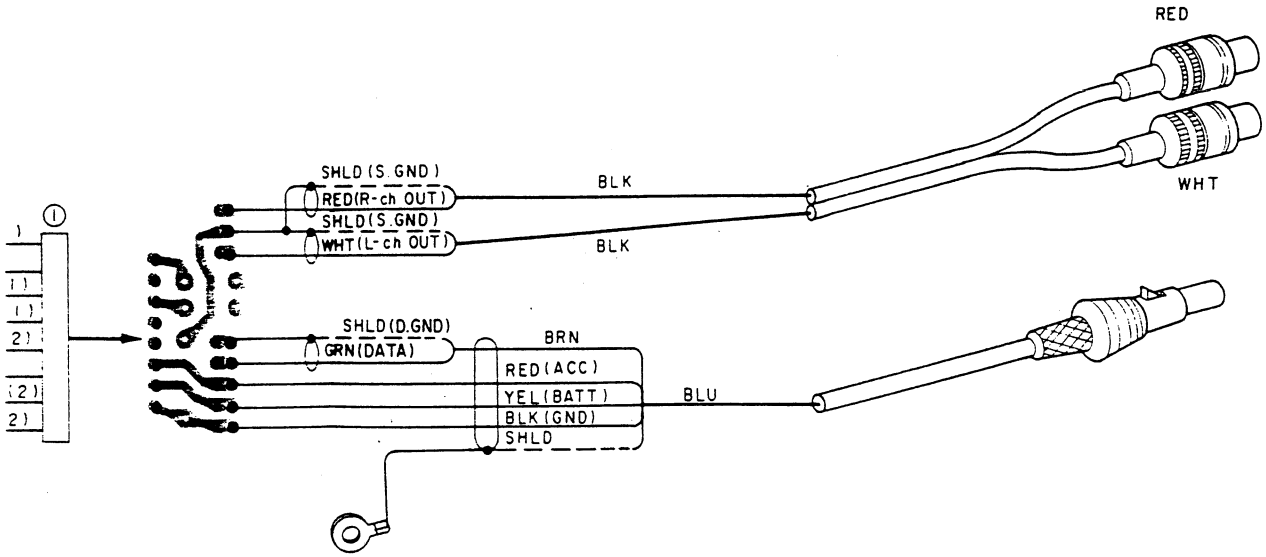


Figure 14

INTERFACE MODULE

SOLDER SIDE




RED
WHT
SHLD (S.GND)
RED(R-ch OUT)
SHLD(S.GND)
WHT(L-ch OUT)
BLK
BLK
SHLD(D.GND)
GRN(DATA)
BRN
RED(ACC)
YEL(BATT)
BLK(GND)
SHLD
BLU

IC705	4822 209 83361	NJM2904M
IC706	4822 209 30455	NJM2100M
IC707	4822 209 83361	NJM2904M
IC708	4822 209 30452	TCA0372M
IC709	4822 209 30452	TCA0372M
IC710	4822 209 83361	NJM2904M
IC801	4822 209 30454	MC34063M
IC802	4822 209 30453	L78LR05DFA4.2
IC803	5322 209 86518	MC7805CT

INTERFACE MODULE

C1601	4822 126 12297	30PF
C1602	4822 126 12297	30PF
C1603	4822 126 12299	0.022UF
C1604	4822 126 12298	390PF
C1605	4822 126 11462	470PF
C1606	4822 126 12299	0.022UF
C1607	4822 126 11459	100PF
C1801	4822 126 12299	0.022UF
C1802	4822 126 12299	0.022UF
C1803	4822 126 12299	0.022UF

D1601	4822 130 81748	11ES2
D1602	4822 130 33993	1SS176-A7
D1603	4822 130 33993	1SS176-A7
D1801	4822 130 81748	11ES2
ZD1601	4822 130 34233	ZENER MTZJ5.1B
ZD1602	4822 130 34233	ZENER MTZJ5.1B

E1801	4822 124 80247	470UF 16V.
E1802	4822 124 80245	0.1UF 50V.
E1803	4822 124 80246	1UF 50V.

Q1601	4822 130 42412	2SA1345
Q1602	4822 130 42384	2SC3399
Q1603	4822 130 42728	2SC536(E)
Q1604	4822 130 42267	2SA608(E)
Q1605	4822 130 42267	2SA608(E)
Q1606	4822 130 42267	2SA608(E)
Q1801	4822 130 60369	2SC3402
Q1802	4822 130 42435	2SA1348

R1401	4822 050 11001	100R
R1402	4822 050 11001	100R
R1601	4822 050 12203	22K
R1602	4822 050 11803	18K
R1603	4822 050 11003	10K
R1604	4822 116 83947	1M.
R1605	4822 050 12202	2.2K
R1606	4822 116 83949	47K
R1607	4822 116 83948	330R
R1608	4822 116 83951	820R
R1609	4822 116 83948	330R
R1610	4822 116 83951	820R
R1611	4822 050 12203	22K
R1612	4822 050 11503	15K
R1613	4822 050 12203	22K
R1614	4822 050 12202	2.2K
R1801	4822 050 11003	10K

Miscellaneous

IC1601	4822 209 31557	TMP47C800
IC1602	4822 209 31558	TC74HC107AP
IC1801	4822 209 72252	L4904
F1801	4822 253 30401	FUSE 2 A.
F1802	4822 253 30401	FUSE 2 A.
L1801	4822 157 70042	CHOKE
NR1801	4822 116 21212	SURGE ABSORBER
X1601	4822 242 70831	CSA4.00MG

R725	4822 116 83377	7.5K
R726	4822 116 83378	8.2K
R727	4822 116 83378	8.2K
R728	4822 116 83378	8.2K
R729	4822 116 83374	3.9K
R730	4822 116 83381	10K
R731	4822 116 83403	1M
R732	4822 116 83391	39K
R733	4822 116 83386	22K
R734	4822 116 83386	22K
R735	4822 116 83413	12K
R736	4822 116 83376	6.8K
R737	4822 116 83372	2.2K
R738	4822 116 83376	6.8K
R739	4822 116 83372	2.2K
R740	4822 116 83395	100K
R741	4822 116 83396	220K
R742	4822 116 83378	8.2K
R743	4822 116 83389	33K
R744	4822 116 83393	68K
R745	4822 116 83367	1K
R747	4822 116 83392	47K
R748	4822 116 83372	2.2K
R749	4822 116 83385	18K
R750	4822 116 83395	100K
R751	4822 116 83376	6.8K
R752	4822 116 83387	24K
R753	4822 116 83402	680K
R754	4822 116 83944	62K
R755	4822 116 83398	330K
R756	4822 116 83391	39K
R757	4822 116 83396	220K
R758	4822 116 83386	22K
R759	4822 116 83392	47K
R760	4822 116 83396	220K
R761	4822 116 83381	10K
R762	4822 116 83386	22K
R763	4822 116 83386	22K
R764	4822 116 83386	22K
R766	4822 116 83381	10K
R767	4822 116 83372	2.2K
R768	4822 116 83386	22K
R769	4822 116 83381	10K
R770	4822 116 83386	22K
R771	4822 116 83375	4.7K
R772	4822 116 83375	4.7K
R773	4822 116 83375	4.7K
R774	4822 116 83386	22K
R775	4822 116 83386	22K
R776	4822 116 83381	10K
R777	4822 116 83386	22K
R778	4822 116 83381	10K
R779	4822 116 83381	10K
R780	4822 116 83386	22K
R781	4822 116 83381	10K
R782	4822 116 83395	100K
R783	4822 116 83367	1K
R784	4822 116 83414	470K
R785	4822 116 83406	10E 1/4W

R786	4822 116 83406	10E 1/4W
R787	4822 116 83392	47K
R788	4822 116 83392	47K
R789	4822 116 83392	47K
R790	4822 116 83392	47K
R792	4822 116 83404	3.3M
R793	4822 116 83389	33K
R795	4822 116 83363	160E
R796	4822 116 83368	1.2K
R798	4822 116 83414	470K
R799	4822 116 83395	100K
R801	4822 116 83407	100E 1/4W
R802	4822 116 83408	560E 1/4W
R803	4822 116 83408	560E 1/4W
R804	4822 116 83384	16K
R805	4822 116 83373	2.7K
R807	4822 116 83941	22R
R808	4822 116 83381	10K
R809	4822 116 83362	100R
R810	4822 116 83362	100R
R813	4822 116 83381	10K
R901	4822 116 83381	10K
R902	4822 116 83413	12K
R7001	4822 116 83381	10K
R7002	4822 116 83381	10K

Miscellaneous

S101	4822 276 13166	SWITCH EJECT
S102	4822 276 13167	SWITCH LOADING
S103	4822 276 13167	SWITCH HOME
S104	4822 276 13167	SWITCH MAGAZINE
S105	4822 276 13167	SWITCH LIMIT
X501	4822 242 80405	4.19MHZ
BA807	4822 138 10458	BATTERY LIT CR2032
LD101	4822 130 82808	LED AN501
LD102	4822 130 82809	LED AN501-B1
LD103	4822 130 82809	LED AN501-B1
PI101	4822 130 82807	INTERR. PHOTO GP1S51
PT101	4822 130 63098	PHOTO.TR PS5022
PT102	4822 130 63098	PHOTO.TR PS5022
PT103	4822 130 62881	PHOTO TRANS PS502
TH701	4822 111 92105	THERM.100K
VR701	4822 100 11879	POT.150K
VR702	4822 100 11817	33K POTMETER

IC101	4822 209 30193	LB1641
IC102	4822 209 30193	LB1641
IC201	4822 209 30455	NJM2100M
IC301	4822 209 31566	CXD2551M
IC302	4822 209 31567	PD6376
IC303	4822 209 31568	TC74HCU04AF
IC501	4822 209 31565	UPD75112GF
IC502	4822 209 30461	CXK5816M
IC503	4822 209 63806	BA10393F
IC504	4822 209 30458	MC14538BFEL
IC505	4822 209 30463	S-8052ALR
IC701	4822 209 30451	TA8101F
IC702	4822 209 30449	TC9201BF
IC703	4822 209 30448	TC9200BF
IC704	4822 209 30459	LC3516AML

Miscellaneous

M101	4822 361 30372	MOTOR LOADING
M102	4822 361 30369	MOTOR ELEVATOR
M103	4822 361 30371	MOTOR SERVO SLED

Q201	4822 130 62861	DTC343T
Q202	4822 130 62861	DTC343T
Q203	4822 130 62861	DTC343T
Q204	4822 130 62861	DTC343T
Q301	4822 130 62858	DTA124
Q302	4822 130 62504	DTC124K
Q502	4822 130 62504	DTC124K
Q503	4822 130 62863	2SA1037K
Q504	4822 130 90449	DTC144K
Q505	4822 130 62862	2SC2412K
Q506	4822 130 62504	DTC124K
Q507	4822 130 62862	2SC2412K
Q508	4822 130 62858	DTA124
Q701	4822 130 61439	2SB1237
Q702	4822 130 62864	2SD1858
Q703	4822 130 61439	2SB1237
Q704	4822 130 62862	2SC2412K
Q705	4822 130 90449	DTC144K
Q707	4822 130 62858	DTA124
Q708	4822 130 62504	DTC124K
Q801	4822 130 62857	2SB1261
Q802	4822 130 62858	DTA124
Q803	4822 130 62504	DTC124K
Q807	4822 130 62504	DTC124K
Q809	4822 130 61437	DTC114YK

R101	4822 116 83405	4.7E 1/4W
R102	4822 116 83405	4.7E 1/4W
R201	4822 116 83389	33K
R202	4822 116 83389	33K
R205	4822 116 83943	6.2K
R206	4822 116 83943	6.2K
R207	4822 116 83385	18K
R208	4822 116 83385	18K
R209	4822 116 83389	33K
R210	4822 116 83389	33K
R211	4822 116 83942	47R
R212	4822 116 83942	47R
R301	4822 116 83381	10K
R303	4822 116 83367	1K
R304	4822 116 83367	1K
R305	4822 116 83367	1K
R306	4822 116 83367	1K
R307	4822 116 83386	22K
R308	4822 116 83386	22K
R501	4822 116 83385	18K
R502	4822 116 83381	10K
R503	4822 116 83392	47K
R504	4822 116 83395	100K
R505	4822 116 83392	47K
R506	4822 116 83392	47K
R507	4822 116 83389	33K
R508	4822 116 83389	33K
R509	4822 116 83396	220K
R510	4822 116 83389	33K

R511	4822 116 83392	47K
R512	4822 116 83413	12K
R513	4822 116 83403	1M
R514	4822 116 83395	100K
R515	4822 116 83395	100K
R516	4822 116 83396	220K
R517	4822 116 83395	100K
R518	4822 116 83381	10K
R519	4822 116 83392	47K
R520	4822 116 83392	47K
R521	4822 116 83392	47K
R522	4822 116 83392	47K
R523	4822 116 83392	47K
R524	4822 116 83392	47K
R525	4822 116 83392	47K
R526	4822 116 83392	47K
R527	4822 116 83395	100K
R529	4822 116 83381	10K
R530	4822 116 83398	330K
R531	4822 116 83414	470K
R532	4822 116 83403	1M
R533	4822 116 83375	4.7K
R534	4822 116 83945	3.3K 0.25W
R535	4822 116 83392	47K
R536	4822 116 83381	10K
R537	4822 116 83395	100K
R538	4822 116 83385	18K
R539	4822 116 83381	10K
R540	4822 116 83386	22K
R541	4822 116 83395	100K
R542	4822 116 83386	22K
R544	4822 116 83364	180E
R545	4822 116 83366	470E
R546	4822 116 83381	10K
R547	4822 116 83381	10K
R599	4822 050 21003	10K 1% 0.6W
R701	4822 116 83406	10E 1/4W
R702	4822 116 83367	1K
R703	4822 116 83403	1M
R704	4822 116 83381	10K
R705	4822 116 83383	15K
R706	4822 116 83368	1.2K
R707	4822 116 83381	10K
R708	4822 116 83395	100K
R710	4822 116 83372	2.2K
R711	4822 116 83399	390K
R712	4822 116 83398	330K
R713	4822 116 83394	82K
R714	4822 116 83383	15K
R715	4822 116 83401	560K
R716	4822 116 83394	82K
R717	4822 116 83394	82K
R718	4822 116 83376	6.8K
R719	4822 116 83385	18K
R720	4822 116 83413	12K
R721	4822 116 83388	27K
R722	4822 116 83397	240K
R723	4822 116 83367	1K
R724	4822 116 83377	7.5K

C101	4822 126 11866	0.01UF
C102	4822 126 11866	0.01UF
C103	4822 126 11872	0.022UF
C104	4822 126 11872	0.022UF
C105	4822 126 11873	0.1UF
C203	4822 126 11871	680PF
C204	4822 126 11871	680PF
C205	4822 126 12295	220PF
C206	4822 126 12295	220PF
C302	4822 126 11866	0.01UF
C303	4822 126 11884	1000PF
C306	4822 126 11866	0.01UF
C501	4822 126 11866	0.01UF
C502	4822 126 11873	0.1UF
C503	4822 126 11873	0.1UF
C504	4822 126 11864	470PF
C505	4822 126 11861	33PF
C507	4822 126 11863	390PF
C508	4822 126 11862	100PF
C701	4822 126 11872	0.022UF
C702	4822 126 11873	0.1UF
C703	4822 126 11861	33PF
C704	4822 126 11861	33PF
C705	4822 126 12294	4PF
C706	4822 126 11866	0.01UF
C707	4822 126 11866	0.01UF
C708	4822 126 11876	68PF
C709	4822 126 11876	68PF
C710	4822 126 11864	470PF
C711	4822 126 12296	0.056UF
C712	4822 126 11873	0.1UF
C713	4822 126 11875	47PF
C714	4822 126 11875	47PF
C715	4822 126 11875	47PF
C716	4822 126 11879	1800PF
C718	4822 126 11886	0.033UF
C719	4822 126 11882	4700PF
C720	4822 126 11878	330PF
C721	4822 126 11883	6800PF
C722	4822 126 11881	2700PF
C723	4822 126 11874	22PF
C724	4822 126 11873	0.1UF
C725	4822 126 11866	0.01UF
C726	4822 126 11866	0.01UF
C727	4822 126 11887	0.047UF
C728	4822 126 11887	0.047UF
C729	4822 126 11866	0.01UF
C731	4822 126 11885	10PF
C732	4822 126 11885	10PF
C733	4822 126 11873	0.1UF
C735	4822 126 11876	68PF
C736	4822 126 11887	0.047UF
C737	4822 126 11866	0.01UF
C740	4822 126 11885	10PF
C801	4822 126 11866	0.01UF
C802	4822 126 11877	120PF
C804	4822 126 11873	0.1UF
C805	4822 126 11866	0.01UF

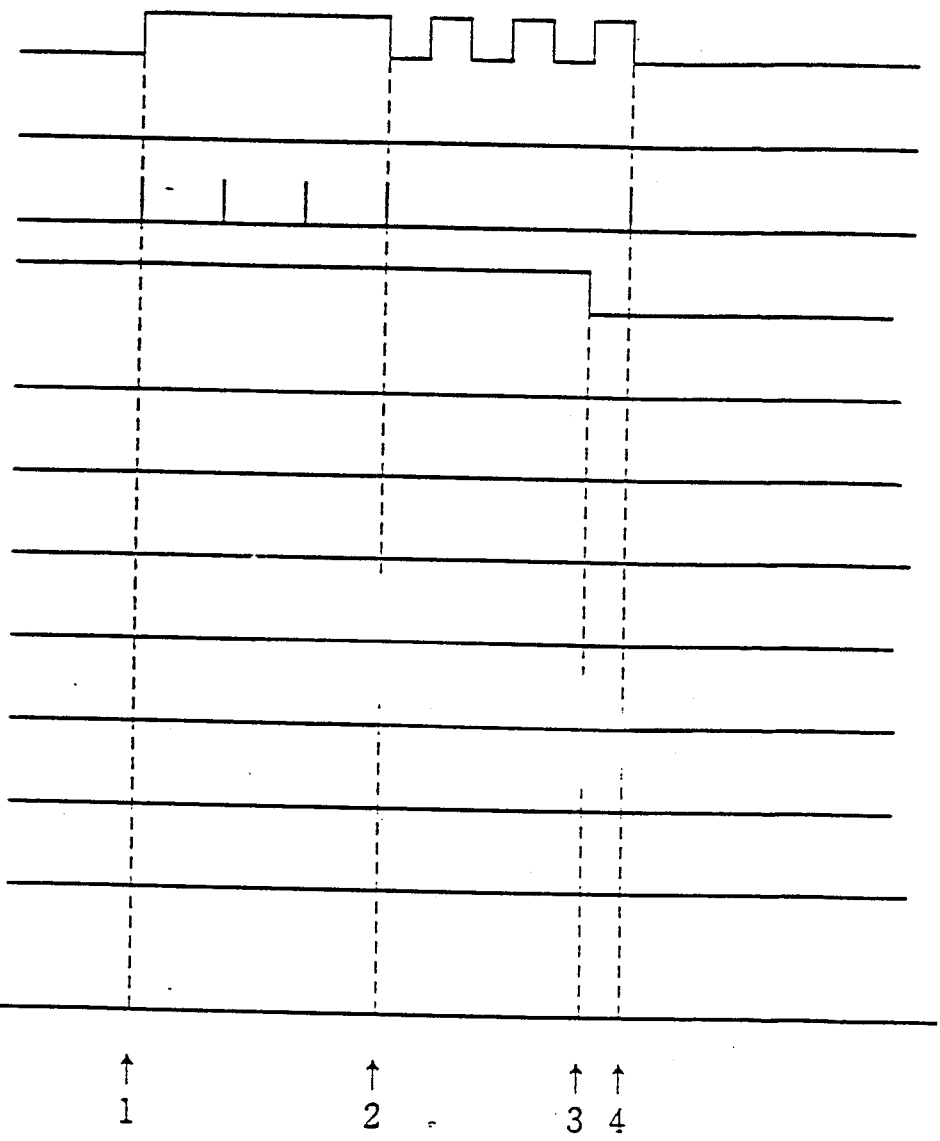
D501	4822 130 33944	DAN202K
D502	4822 130 33944	DAN202K
D503	4822 130 43408	MA151WK
D504	4822 130 80523	DA204K
D505	4822 130 33944	DAN202K
D506	4822 130 32973	MA165TA
D599	4822 130 83005	SWITCH DIODE 1SS32
D701	4822 130 33944	DAN202K
D702	4822 130 33944	DAN202K
D801	4822 130 31087	10E2
D802	4822 130 82779	SB05
D803	4822 130 80523	DA204K
D804	4822 130 32866	MA151WA
D805	4822 130 33944	DAN202K
ZD101	4822 130 82783	ZENER RD6.2MB1
ZD501	4822 130 83098	HZS5.6NB2

E201	4822 124 23922	10UF 16V
E202	4822 124 23922	10UF 16V
E203	4822 124 23922	10UF 16V
E204	4822 124 23922	10UF 16V
E301	4822 124 23924	0.1UF 50V.
E302	4822 124 23922	10UF 16V
E303	4822 124 80242	47UF 16V.
E304	4822 124 80242	47UF 16V.
E501	4822 124 23925	1UF 50V
E502	4822 124 23926	2.2UF 50V
E503	4822 124 23922	10UF 16V.
E701	4822 124 80241	3.3UF 25V.
E702	4822 124 23919	47UF 6.3V
E703	4822 124 11245	10UF 16V
E704	4822 124 11302	4.7UF 63V.
E705	4822 124 11302	4.7UF 63V.
E707	4822 124 23923	22UF 16V
E708	4822 124 23922	10UF 16V
E710	4822 124 23935	0.47UF 50V
E711	4822 124 23922	10UF 16V
E712	4822 124 23922	10UF 16V
E713	4822 124 23934	4.7UF 25V
E714	4822 124 23922	10UF 16V
E715	4822 124 80242	47UF 16V.
E716	4822 124 80242	47UF 16V.
E717	4822 124 23922	10UF 16V
E718	4822 124 23925	1UF 50V
E801	4822 124 23937	1000UF 16V
E802	4822 124 23922	10UF 16V
E803	4822 124 23937	1000UF 16V
E804	4822 124 11245	10UF 16V
E806	4822 124 80243	100UF 16V.
E807	4822 124 23936	330UF 6.3V
E809	4822 124 23922	10UF 16V
E810	4822 124 23922	10UF 16V
E811	4822 124 80242	47UF 16V.
E813	4822 124 80242	47UF 16V.

L801	4822 157 63588	CHOKE
L802	4822 157 63587	220UH
L803	4822 157 70043	RCR8750 220MH

(5) RETURN TO HOME POSITION

μ-com (IC 501)		Ref.No.	Timing chart.
Pin Name	Pin No.		
ELV (-)	15		
ELV (+)	14		
DISC NO	30	PT101	
HOME SW	34	S103	



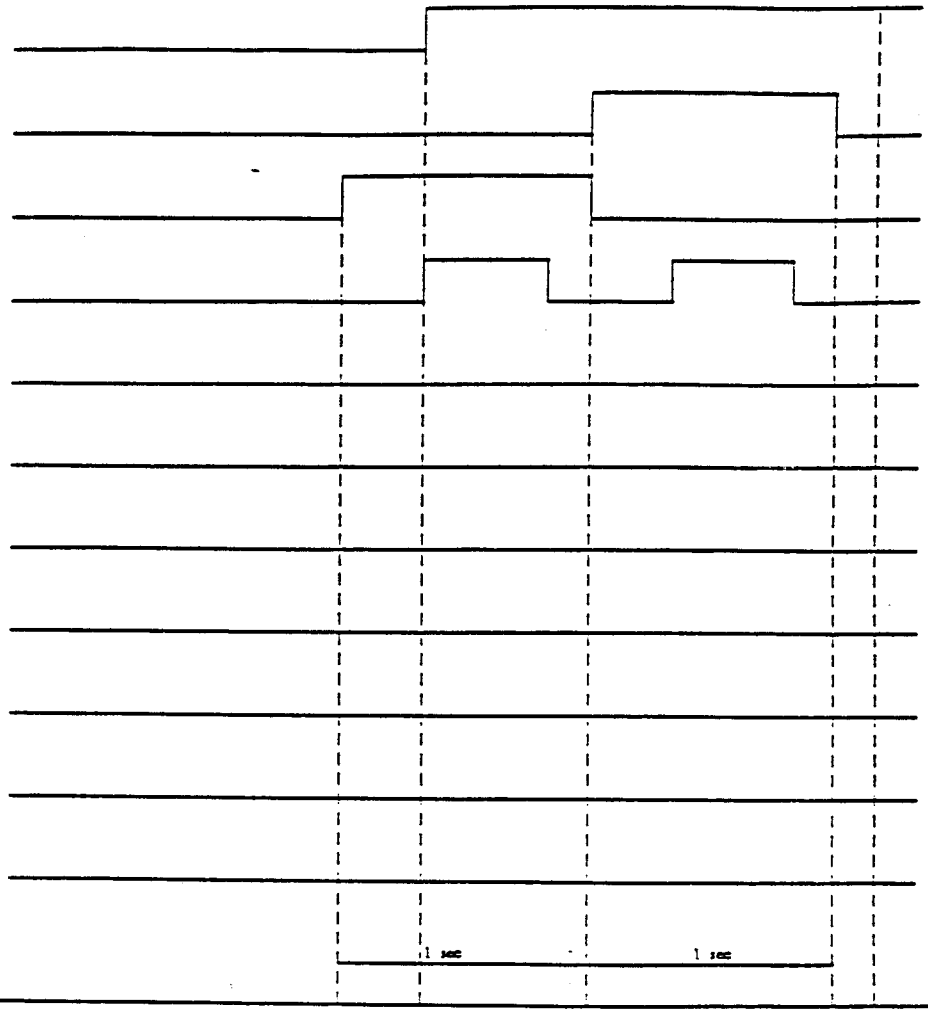
SEQUENCE OPERATION

HOME POSITION	THIS IS THE REST POSITION FOR THE ELEVATOR MECHANISM BEFORE THE PLAY FUNCTION BEGINS AND DURING THE EJECT CYCLE
1	PIN 15 GOES FROM "H" TO "L". THE ELEVATOR MECHANISM BEGINS LOWERING DOWN.
2	AFTER THE ELEVATOR MECHANISM HAS REACHED ONE POSITION PRIOR TO THE TARGET POSSITION. A PULSES IS APPLIES TO PIN 15.
3	PIN 34 GOES FROM "H" TO "L".
4	THE FIRST DISC SIGNAL IS DETECTED AFTER THE HOME SW GOES FROM "H" TO "L". THEN PIN 15 GOES FROM "H" TO "L".
*	AN "E-06" ON THE DISPLAY INDICATES A DISC CHANGE MALFUNCTION.

(6) MAGAZINE EJECT

μ-com (IC 501) Pin Name	Pin No.	Ref. No.
MAGZ. IN SW	35	S104
LOAD (-)	17	
LOAD (+)	16	
LOAD SW	22	S102

Timing chart.

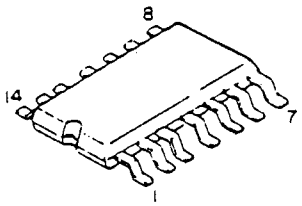


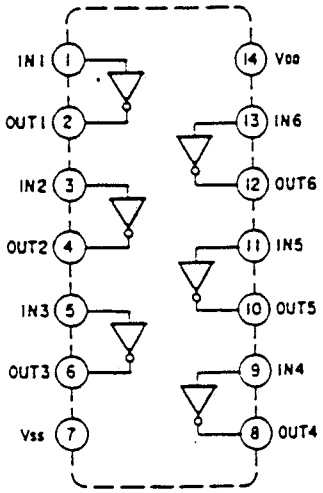
SEQUENCE OPERATION

1	PIN 16 GOES FROM "L" TO "H" FOR ONE SECOND.
2	AFTER MAGAZINE IS EJECTED PIN 35 GOES FROM "L" TO "H".
3	PIN 17 GOES FROM "L" TO "H" FOR ONE SECOND.
4	EJECT OPERATION COMPLETED: PIN 35="H" PIN 22="L"
*	IF EJECT CONDITIONS ARE UNSUCCESSFUL THE PROCESS WILL REPEAT THREE TIMES. AFTER A THIRD ATTEMPT. THE DISPLAY WILL INDICATE "E-07".

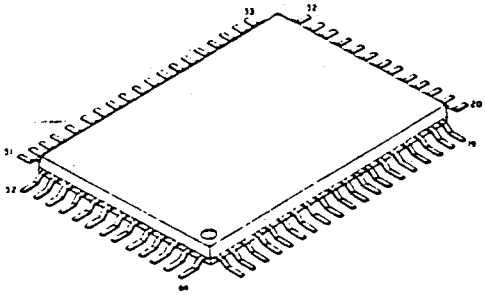
Semi - Conductor Lead Identifications

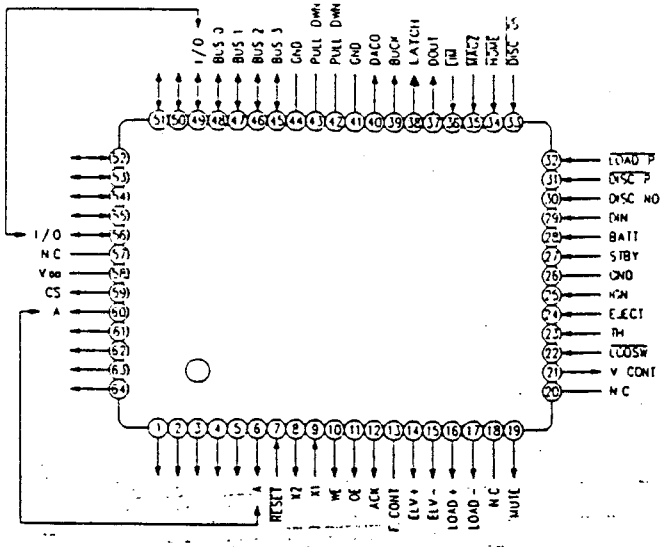
TC74HCU04AF : IC303



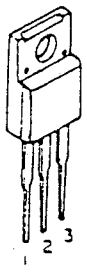


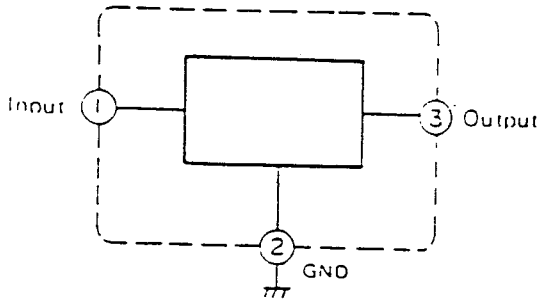
25735W02
25735W03
: IC501



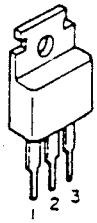


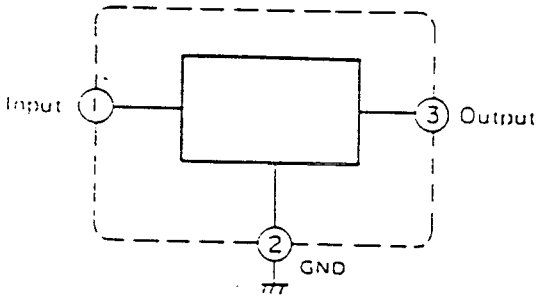
TA78[illegible]S : IC803



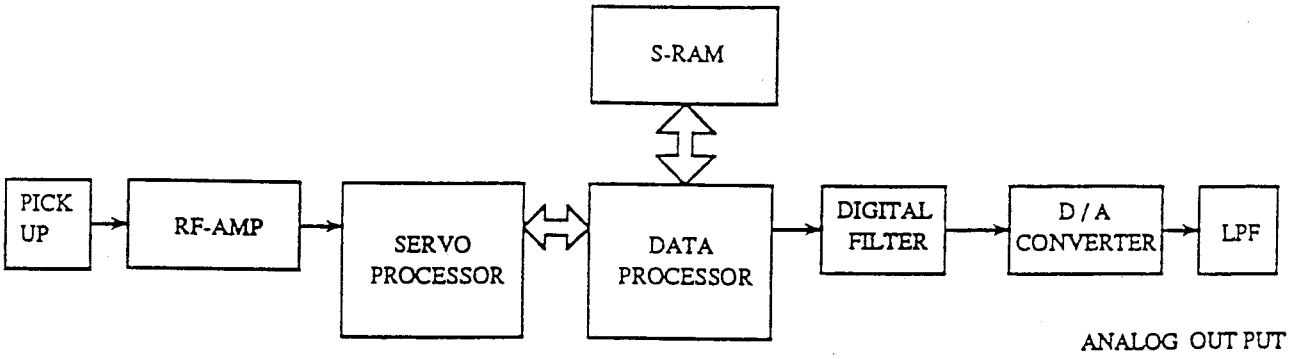


TA78[illegible]05AP : IC803

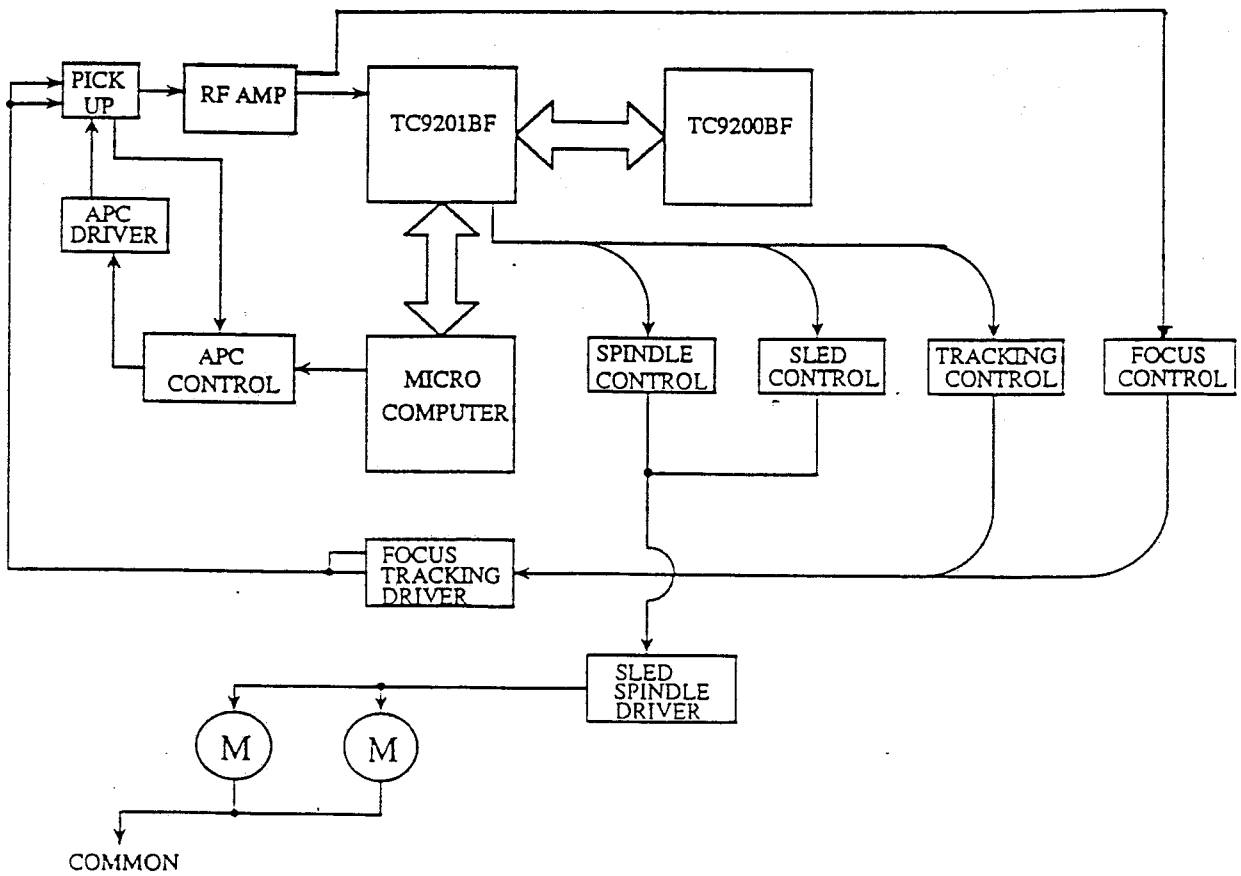




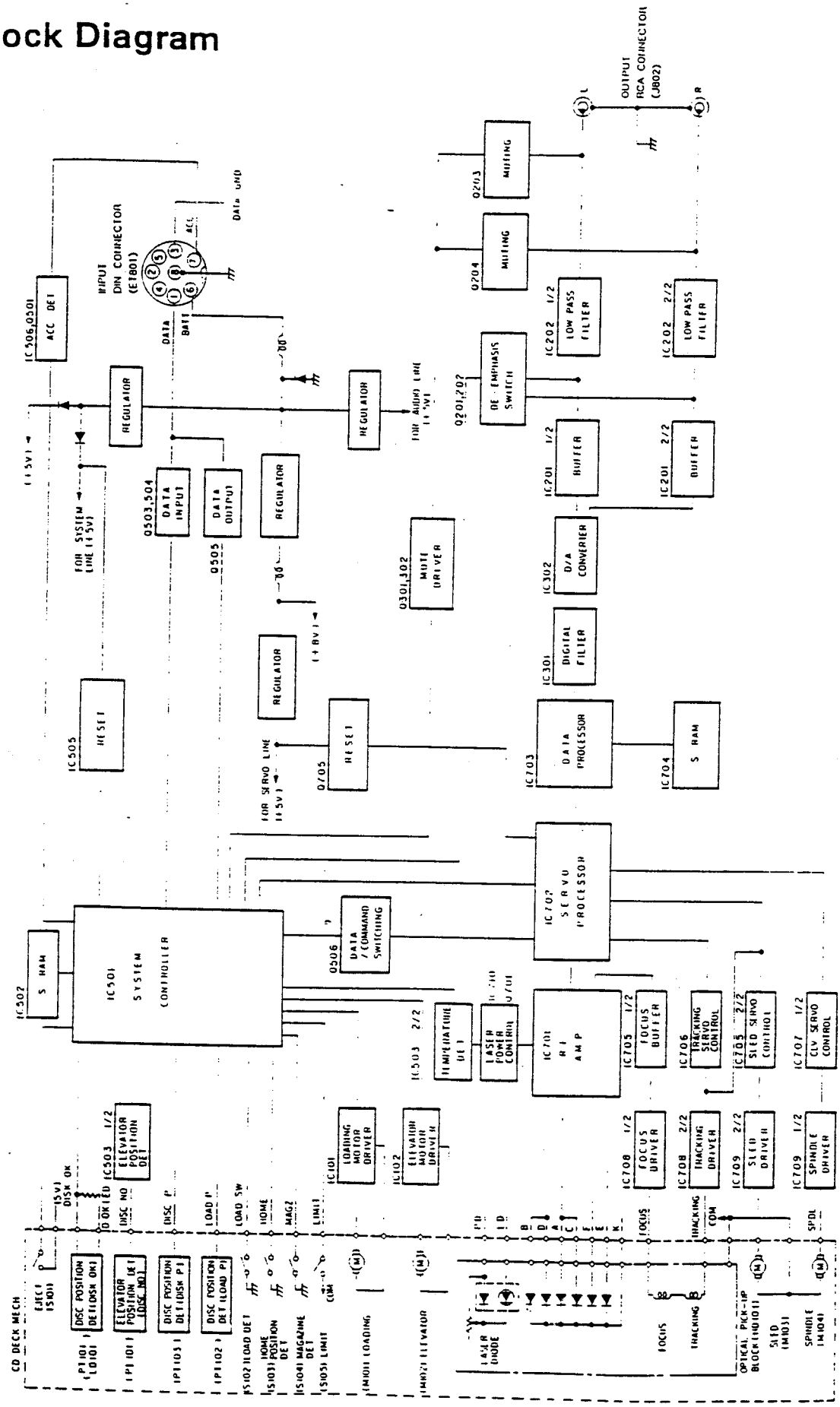
AUDIO SIGNAL BLOCK DIAGRAM



SERVO CIRCUIT BLOCK DIAGRAM

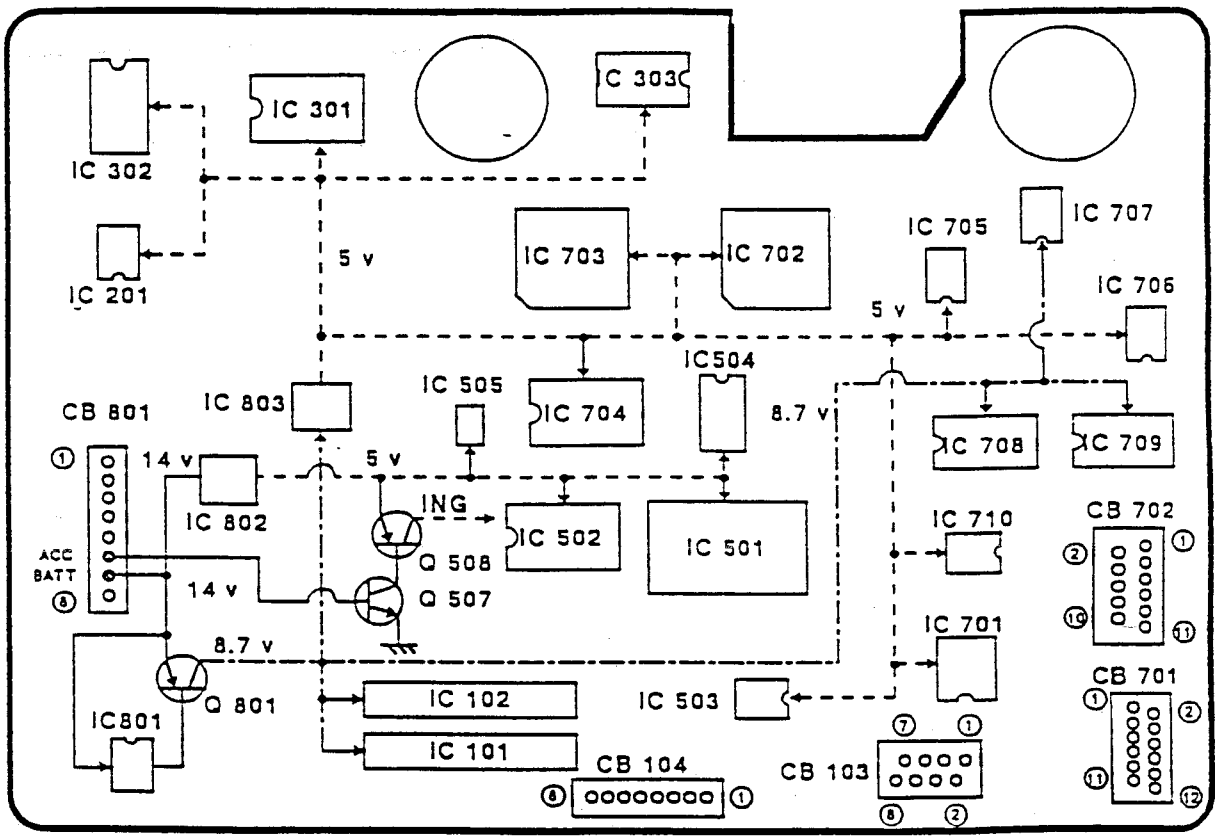


Block Diagram



MAIN P.C. BOAD

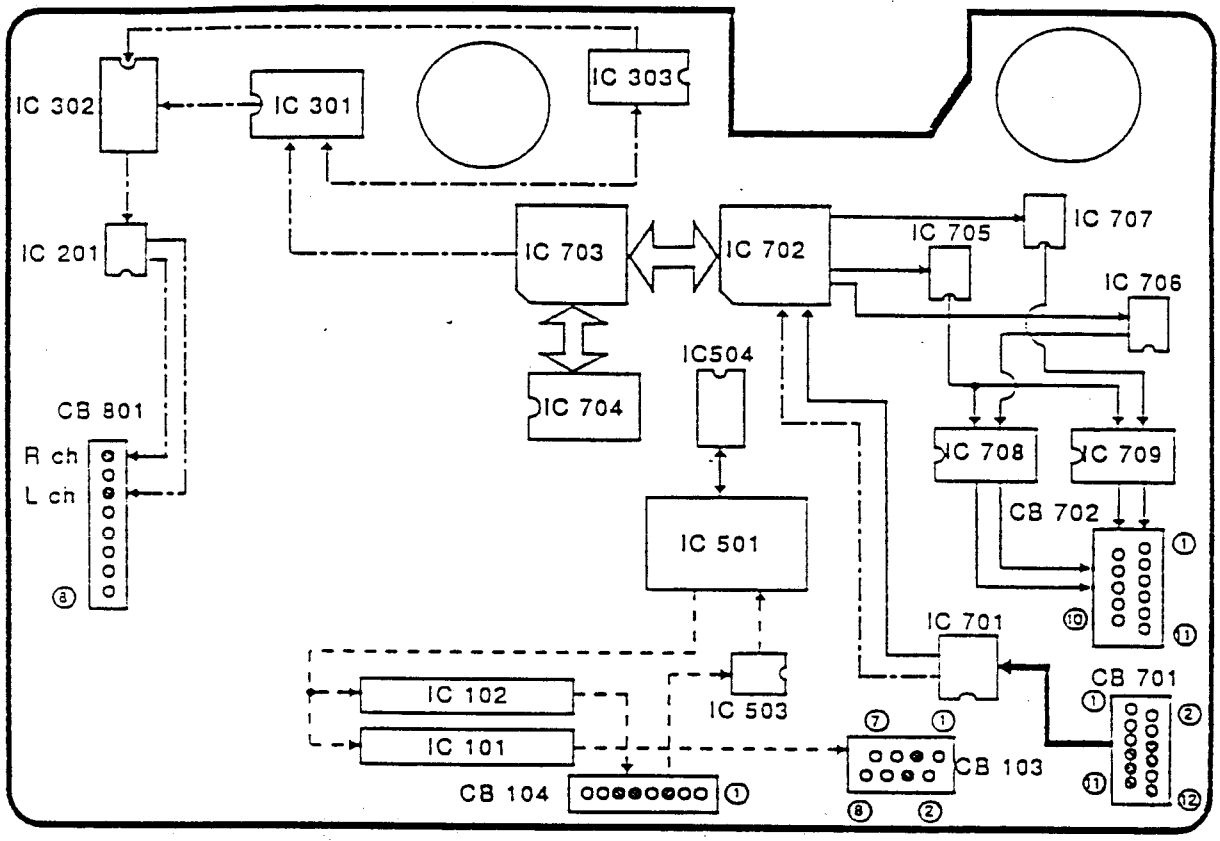
SOURCE OF POWER SUPPLY



REF	IC NAME	POWER		SIGNAL	
		Pin / No.	VOLTAGE	INPUT	OUTPUT
IC 101	LOADING MOTOR DRIVER	#7 , #8	8.7 V	#5 , #6	#2 , #10
IC 102	ELEVETOR MOTOR DRIVER	#7 , #8	8.7 V	#5 , #6	#2 , #10
IC 201	LOW PASS FILTER	#8	5.0 V	#9 ~ #11	#23
IC 301	DAGITAL FILTER	#6	5.0 V	#12. #14	#3, #5
IC 302	D/A CONVERTER	#1 , #3 , #4 #7 , #8	5.0 V	#13 ~ #15	#6 , #11
IC 303	INVERTER	#14	5.0 V	#5 , #11	#6 , #10
IC 501	SYSTEM CONTROLLER	#58	5.0 V	DATA	BAS
IC 502	STATIC RAM	#24	5.0 V	DATA	BAS
IC 503	ELEVATOR POSITION DEFECTOR TEMPERRATURE DETECTOR	#8	5.0 V	#2 #5 , #6	#1 #7
IC 504	DATALINE SUPER INTENDENCE	#16	5.0 V	#5	#10
IC 505	RESET	#2	5.0 V	#2	#1

MAIN P.C. BOAD

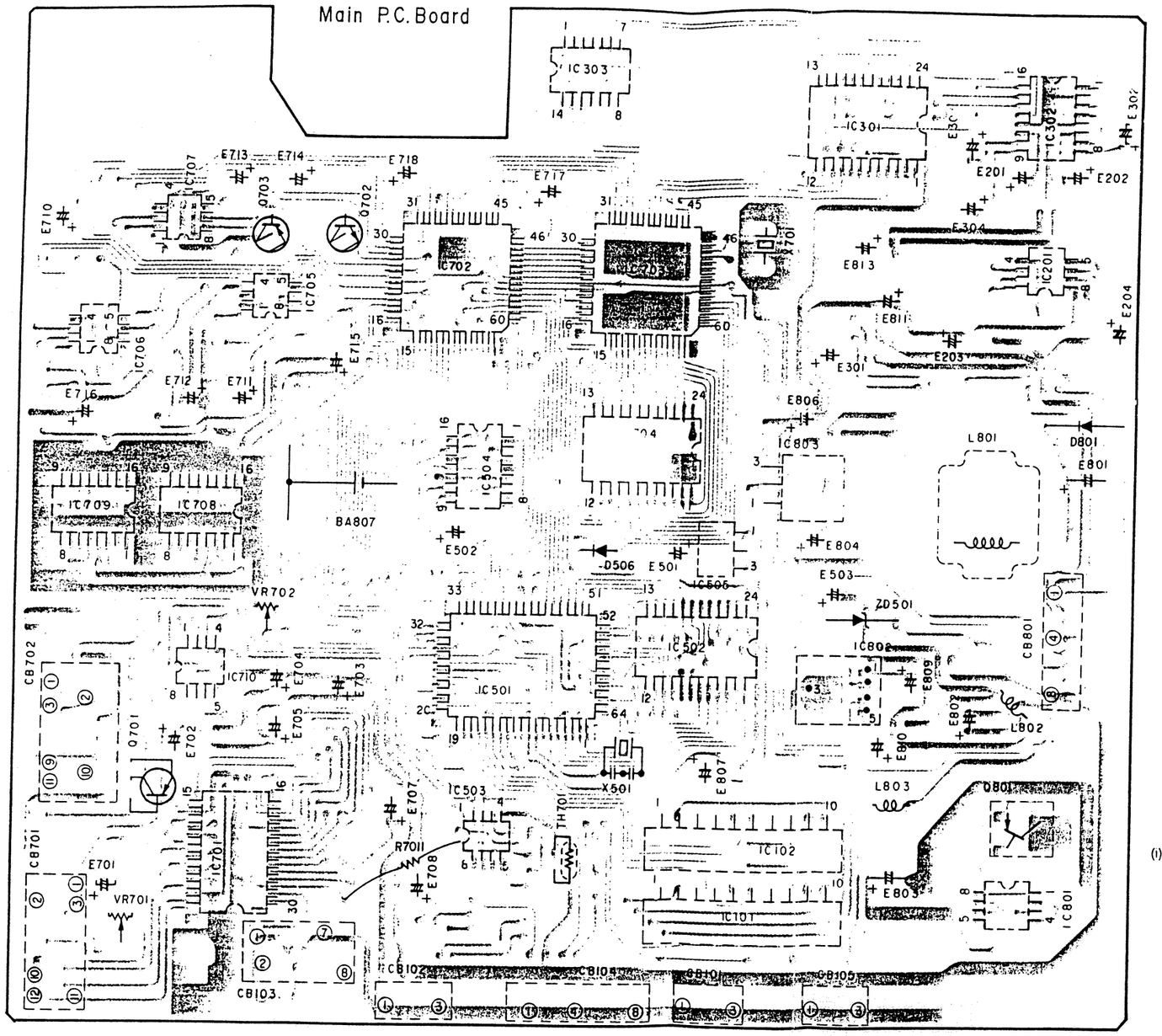
SIGNAL AND SERVO



REF	IC NAME	POWER		SIGNAL	
		Pin / No.	VOLTAGE	INPUT	OUTPUT
IC 701	RF AMP	#8	5.0 V	#1 ~ #7	#22 , #23
IC 702	SORVO PROCESSOR	#53	5.0 V	DATA	BAS
IC 703	DATA PROCESSOR	#53	5.0 V	DATA	BAS
IC 704	STATIC RAM	#24	5.0 V	DATA	BAS
IC 705	FOCUS BUFFER SLED SERVO SIGNAL PRODUCE	#8	5.0 V	#2 , #3 , #5	#1 , #7
IC 706	TRACKING SERVO PHASE COMPENSATION	#8	5.0 V	#3 , #5	#1 , #7
IC 707	CLV SERVO CONTROL SIGNAL	#8	8.7 V	#2 , #3	#1
IC 708	DRAIVER (TRACKING , FOCUS)	#4	8.7 V	#11 , #14	#3 , #5
IC 709	DRIVER (SLED , SPINDLE)	#4	8.7 V	#12 , #14	#3 , #5
IC 710	AUTOMATIC LASER POWER CONTOROL CIRCUIT	#8	5.0 V	#3 #5	#1 #7
IC 801	SERVO DRIVER	#6 , #74	14.0 V	#6 , #7	#1 , #8
IC 802	5 V POWER (FOR SYSTEM CONTROLLER)	#1	14.0 V	#1	#5
IC 803	REGULATOR	#1	7.8 V	#1	#3

Parts Layout on P C Boards and Wiring Diagram (1/2)

Main P.C.Board



To Optical Pick-up Unit P.C.Board

To FPC Actuate P.C.Board

To FPC Elevator P.C.Board

To LED P.C.Board

To Interrupt P.C.Board

To Magazine P.C.Board

To Switch P.C.Board

IC101

1	0V
2	0.5V
3	0.7V
4	1.6V
5	0V
6	0V
7	8.7V
8	8.7V
9	0.7V
10	0.5V

IC102

1	0V
2	0.5V
3	0.7V
4	NC
5	0V
6	0V
7	8.7V
8	8.7V
9	0.7V
10	0.5V

IC201

1	2.5V
2	2.5V
3	2.5V
4	0V
5	2.5V
6	2.5V
7	2.5V
8	5V

IC301

1	0V	9	–	17	NC
2	5V	10	–	18	NC
3	NC	11	–	19	0V
4	–	12	5V	20	NC
5	NC	13	–	21	–
6	5V	14	–	22	–
7	NC	15	–	23	–
8	NC	16	–	24	0V

IC302

1	5V	9	2.6V
2	0V	10	2.6V
3	5V	11	–
4	5V	12	0V
5	0V	13	–
6	–	14	–
7	5V	15	–
8	5V	16	–

IC303

1	0V
2	NC
3	0V
4	NC
5	–
6	–
7	0V

IC505

1	4.9
2	4.9
3	0V

IC501

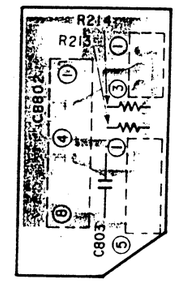
1	0V	11	4.9V	21	4.9V	31	4.7V	41	0V	51	4.9V	61	0V
2	0V	12	–	22	0V	32	0.2V	42	0V	52	4.9V	62	0V
3	0V	13	0V	23	0V	33	NOTE1	43	4.9V	53	4.9V	63	0V
4	0V	14	0V	24	0V	34	0V	44	0V	54	4.9V	64	0V
5	0V	15	0V	25	5.1V	35	0V	45	–	55	4.9V		
6	0V	16	0V	26	0V	36	5V	46	–	56	4.9V		
7	4.9V	17	0V	27	4.7V	37	–	47	–	57	NC		
8	–	18	NC	28	4.9V	38	0V	48	–	58	5V		
9	–	19	0V	29	–	39	–	49	4.9V	59	0V		
10	4.9V	20	NC	30	0V	40	–	50	4.9V	60	0V		

NOTE1 : less them 1V

IC502

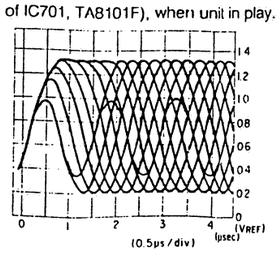
1	0V	11	4.9V	21	4.9V
2	0V	12	0V	22	0V
3	0V	13	4.9V	23	0V
4	0V	14	4.9V	24	5V
5	0V	15	4.9V		
6	0V	16	4.9V		
7	0V	17	4.9V		
8	0V	18	0V		
9	4.9V	19	0V		
10	4.9V	20	4.9V		

Connector P.C.Board

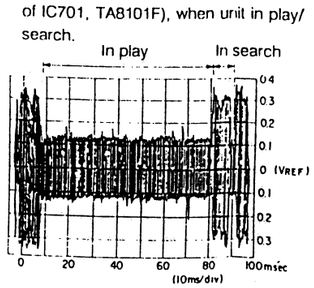


Lug

(i) Waveform at RFO terminal (No. 10 pin of IC701, TA8101F), when unit in play.



(ii) Waveform at TSO terminal (No. 22 pin of IC701, TA8101F), when unit in play/search.

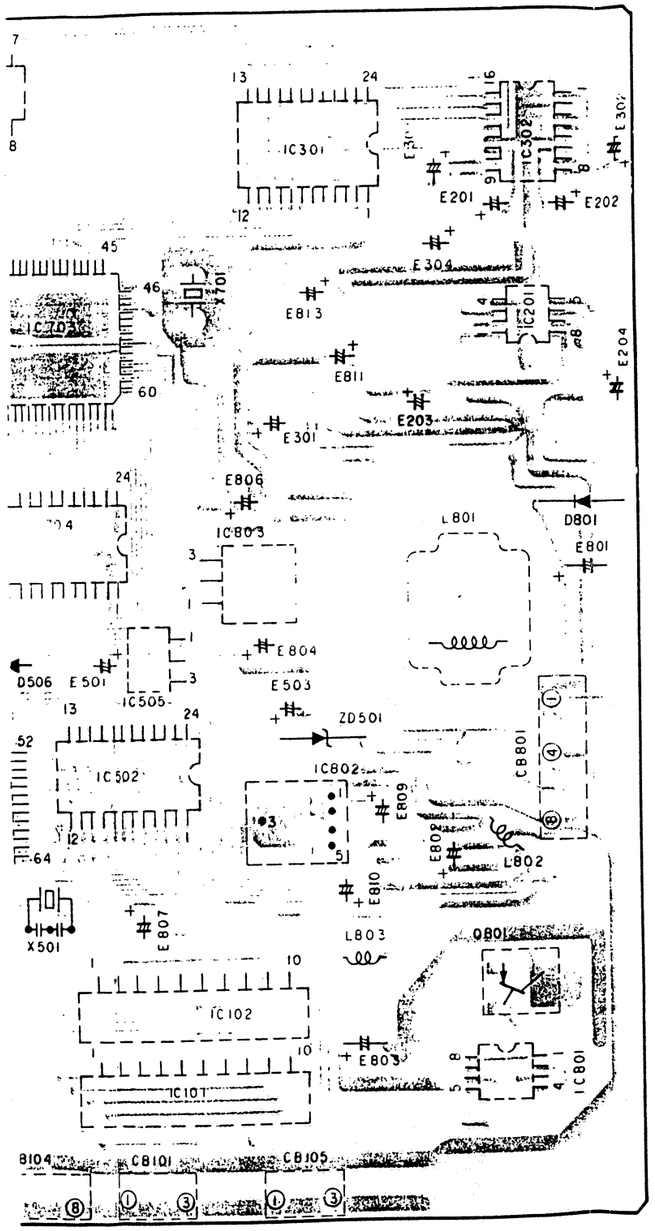


[Measuring Condi

- Power supply vo
- Measuring mete
- Measuring point
- Measuring cond

A B C D E F G H

agram (1/2)



IC101

1	0V
2	0.5V
3	0.7V
4	1.6V
5	0V
6	0V
7	8.7V
8	8.7V
9	0.7V
10	0.5V

IC102

1	0V
2	0.5V
3	0.7V
4	NC
5	0V
6	0V
7	8.7V
8	8.7V
9	0.7V
10	0.5V

IC201

1	2.5V
2	2.5V
3	2.5V
4	0V
5	2.5V
6	2.5V
7	2.5V
8	5V

IC301

1	0V	9	–	17	NC
2	5V	10	–	18	NC
3	NC	11	–	19	0V
4	–	12	5V	20	NC
5	NC	13	–	21	–
6	5V	14	–	22	–
7	NC	15	–	23	–
8	NC	16	–	24	0V

IC302

1	5V	9	2.6V
2	0V	10	2.6V
3	5V	11	–
4	5V	12	0V
5	0V	13	–
6	–	14	–
7	5V	15	–
8	5V	16	–

IC303

1	0V	8	NC
2	NC	9	0V
3	0V	10	–
4	NC	11	–
5	–	12	NC
6	–	13	0V
7	0V	14	5V

IC704

1	–	13	–
2	–	14	–
3	–	15	–
4	–	16	–
5	–	17	–
6	–	18	0V
7	–	19	–
8	–	20	–
9	–	21	–
10	–	22	–
11	–	23	–
12	0V	24	5V

IC705

1	–
2	–
3	–
4	0V
5	–
6	–
7	–
8	5V

IC706

1	2.2V
2	2.2V
3	2.2V
4	0V
5	2.2V
6	2.2V
7	2.2V
8	5V

IC707

1	–
2	–
3	–
4	0V
5	–
6	–
7	–
8	8.7V

IC710

1	–
2	–
3	–
4	0V
5	2.6V
6	5V
7	0V
8	5V

IC802

1	13.2V
2	6.6V
3	0.7V
4	5.6V
5	5.7V

IC803

1	8.6V
2	0V
3	5V

IC501

1	0V	11	4.9V	21	4.9V	31	4.7V	41	0V	51	4.9V	61	0V
2	0V	12	–	22	0V	32	0.2V	42	0V	52	4.9V	62	0V
3	0V	13	0V	23	0V	33	NOTE1	43	4.9V	53	4.9V	63	0V
4	0V	14	0V	24	0V	34	0V	44	0V	54	4.9V	64	0V
5	0V	15	0V	25	5.1V	35	0V	45	–	55	4.9V		
6	0V	16	0V	26	0V	36	5V	46	–	56	4.9V		
7	4.9V	17	0V	27	4.7V	37	–	47	–	57	NC		
8	–	18	NC	28	4.9V	38	0V	48	–	58	5V		
9	–	19	0V	29	–	39	–	49	4.9V	59	0V		
10	4.9V	20	NC	30	0V	40	–	50	4.9V	60	0V		

NOTE1 : less than 1V

IC502

1	0V	11	4.9V	21	4.9V
2	0V	12	0V	22	0V
3	0V	13	4.9V	23	0V
4	0V	14	4.9V	24	5V
5	0V	15	4.9V		
6	0V	16	4.9V		
7	0V	17	4.9V		
8	0V	18	0V		
9	4.9V	19	0V		
10	4.9V	20	4.9V		

IC503

1	0V
2	5V
3	1.8V
4	0V
5	2.5V
6	4.4V
7	0V
8	5V

IC504

1	0V	9	5.2V
2	5V	10	0V
3	4.9V	11	4.6V
4	0V	12	0V
5	4.9V	13	4.9V
6	0V	14	4.7V
7	5.2V	15	0V
8	0V	16	5.2V

IC505

1	4.9V
2	4.9V
3	0V

IC708

1	0V	9	0V
2	0V	10	0V
3	–	11	4.2V
4	8.7V	12	4.2V
5	–	13	4.2V
6	0V	14	4.2V
7	0V	15	0V
8	0V	16	0V

IC709

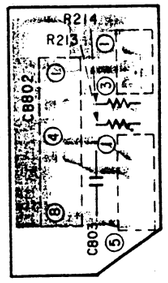
1	0V	9	0V
2	0V	10	0V
3	–	11	4.1V
4	8.7V	12	4.1V
5	–	13	4.2V
6	0V	14	4.2V
7	0V	15	0V
8	0V	16	0V

IC801

1	–	5	1.3V
2	0V	6	13.5V
3	–	7	13.5V
4	0V	8	–

	E	C	B
Q201	0V	2.4V	0V
Q202	0V	2.4V	0V
Q301	13.5V	0V	13.4V
Q302	0V	13.4V	0V
Q502	0V	4.9V	0V
Q503	5.2V	0V	6.4V
Q504	0V	4.9V	0V
Q505	0V	12.2V	0V
Q506	0V	–	–
Q507	0V	0V	0.6V
Q508	5.1V	5.1V	0V
Q701	4.5V	1.8V	3.8V
Q702	4.2V	8.7V	4.7V
Q703	4.2V	0V	3.7V
Q704	3.7V	4.7V	4.2V
Q705	0V	4.9V	0.3V
Q706	2.2V	2.1V	5V
Q708	2.1V	2.2V	0V
Q801	13.3V	–	–
Q802	13.5V	13.5V	0V
Q803	0V	0V	4.9V
Q809	4.9V	5.7V	5.6V

Connector P.C.Board



Lug

Output RCA Connector
(J802)

Input DIN Connector
(ET801)

IC701

1	2.2V	16	–
2	2.2V	17	–
3	2.2V	18	–
4	2.2V	19	–
5	1.7V	20	–
6	1.7V	21	2.2V
7	2.2V	22	2.2V
8	5V	23	–
9	–	24	–
10	–	25	2.2V
11	–	26	–
12	2.2V	27	–
13	2.2V	28	–
14	0V	29	–
15	–	30	–

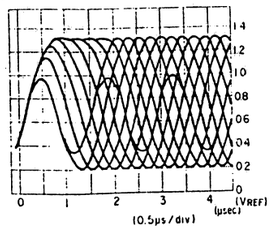
IC702

1	NC	11	–	21	–	31	2.2V	41	0V	51	–
2	5V	12	–	22	2.2V	32	2.2V	42	NC	52	–
3	5V	13	2.2V	23	5V	33	2.2V	43	NC	53	5V
4	NC	14	–	24	2.8V	34	4.4V	44	–	54	0V
5	NC	15	–	25	2.2V	35	2.5V	45	NC	55	–
6	–	16	–	26	2.2V	36	–	46	NC	56	–
7	–	17	–	27	2.2V	37	–	47	–	57	–
8	–	18	2.2V	28	–	38	–	48	–	58	–
9	–	19	2.5V	29	–	39	–	49	–	59	–
10	–	20	2V	30	–	40	0V	50	–	60	–

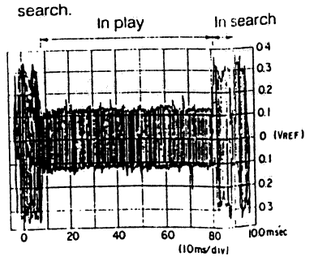
IC703

1	–	11	–	21	NC	31	NC	41	NC	51	NC
2	–	12	–	22	0V	32	–	42	NC	52	NC
3	–	13	–	23	5V	33	–	43	NC	53	5V
4	–	14	–	24	–	34	–	44	NC	54	0V
5	–	15	–	25	–	35	–	45	–	55	NC
6	–	16	–	26	–	36	NC	46	NC	56	–
7	–	17	–	27	–	37	NC	47	–	57	–
8	–	18	NC	28	–	38	–	48	–	58	–
9	–	19	NC	29	–	39	–	49	NC	59	–
10	–	20	0V	30	NC	40	–	50	NC	60	NC

(i) Waveform at RFO terminal (No. 10 pin of IC701, TA8101F), when unit in play.



(ii) Waveform at TSO terminal (No. 22 pin of IC701, TA8101F), when unit in play/search.



[Measuring Conditions]

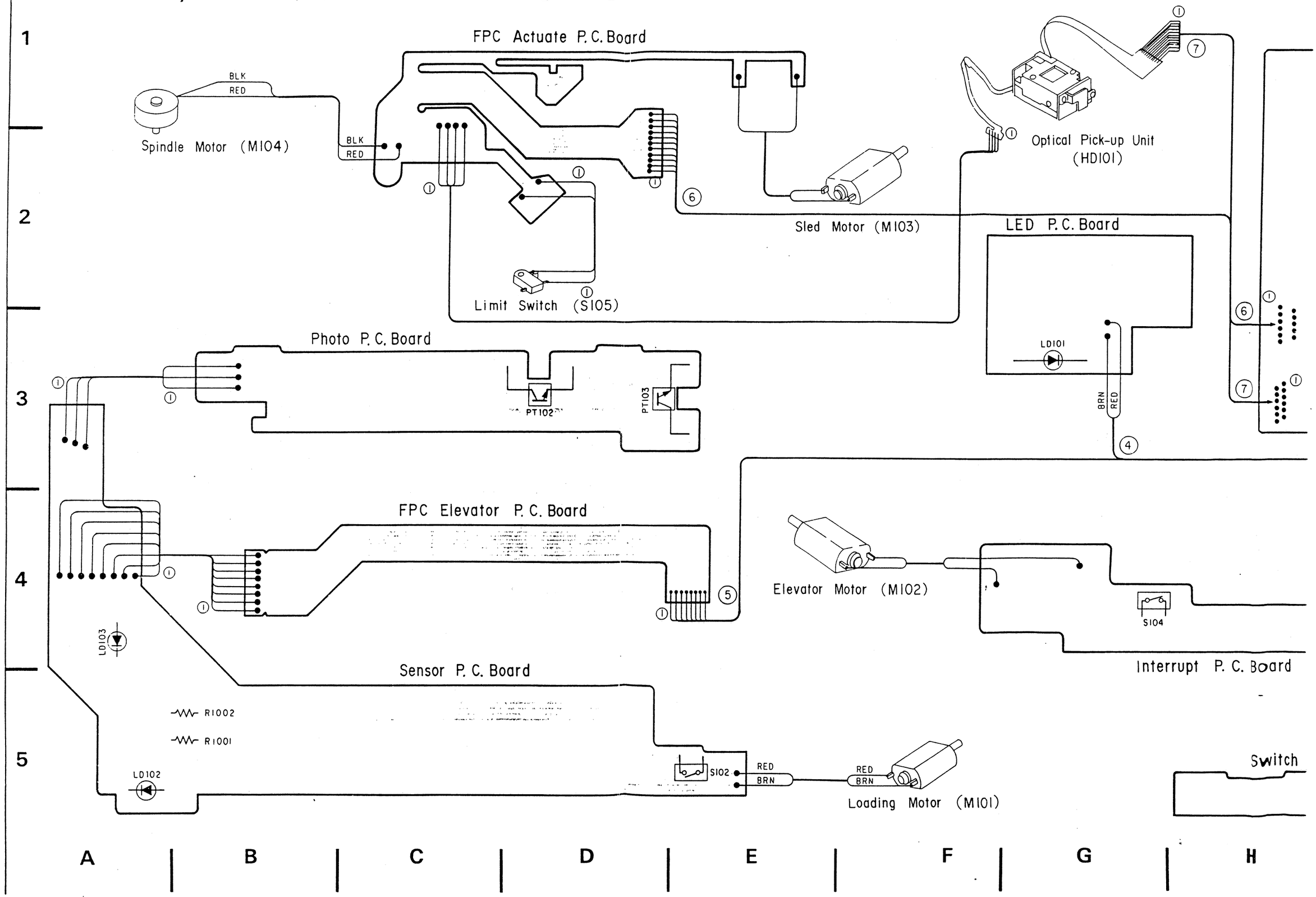
- Power supply voltage : DC 14V
- Measuring meter : Digital multi volt meter
- Measuring point reference : Between ground
- Measuring conditions : No signal input

BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

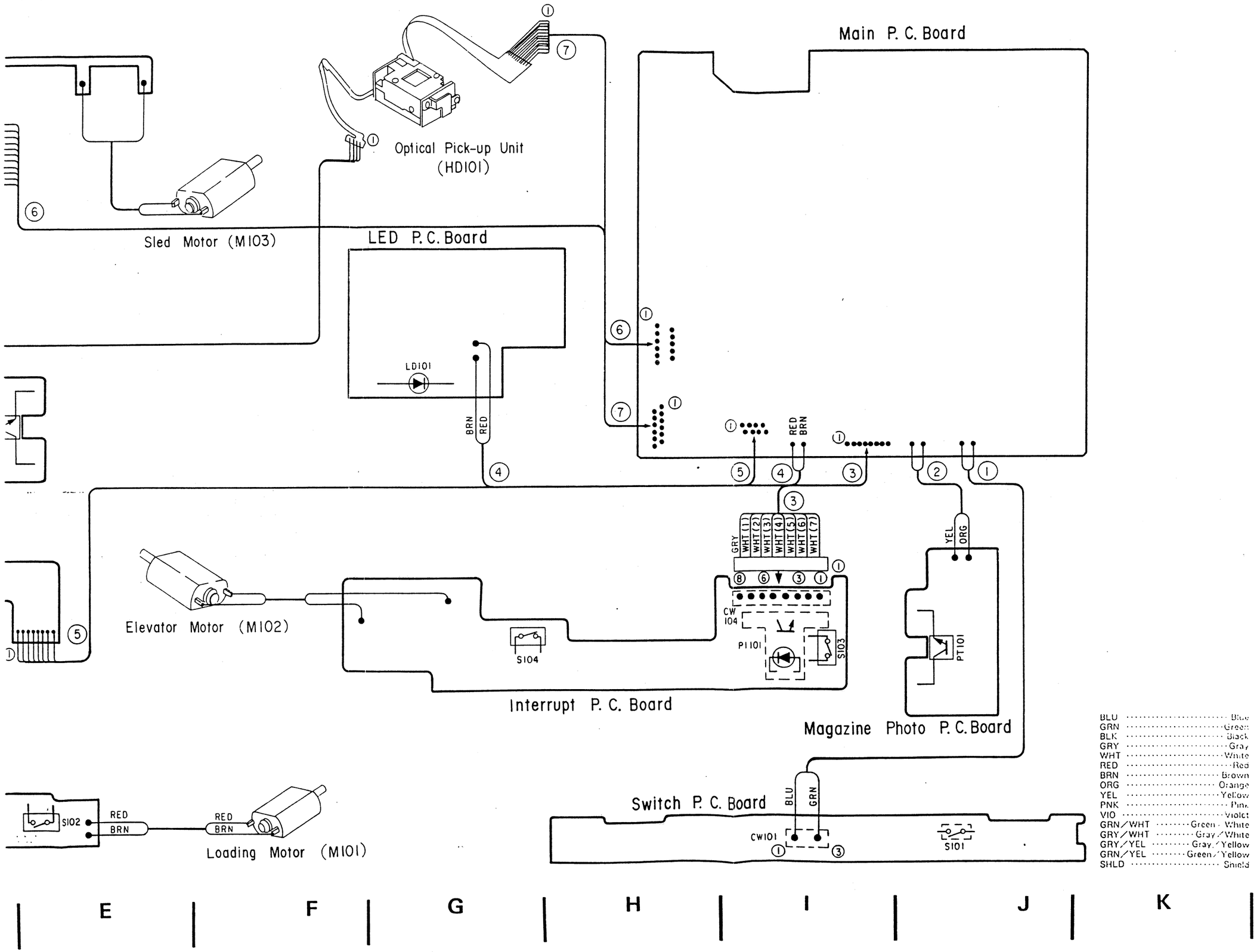
)t To Magazine P.C.Board To Switch P.C.Board

D E F G H I J K

Parts Layout on P.C Boards and Wiring Diagram (2/2)



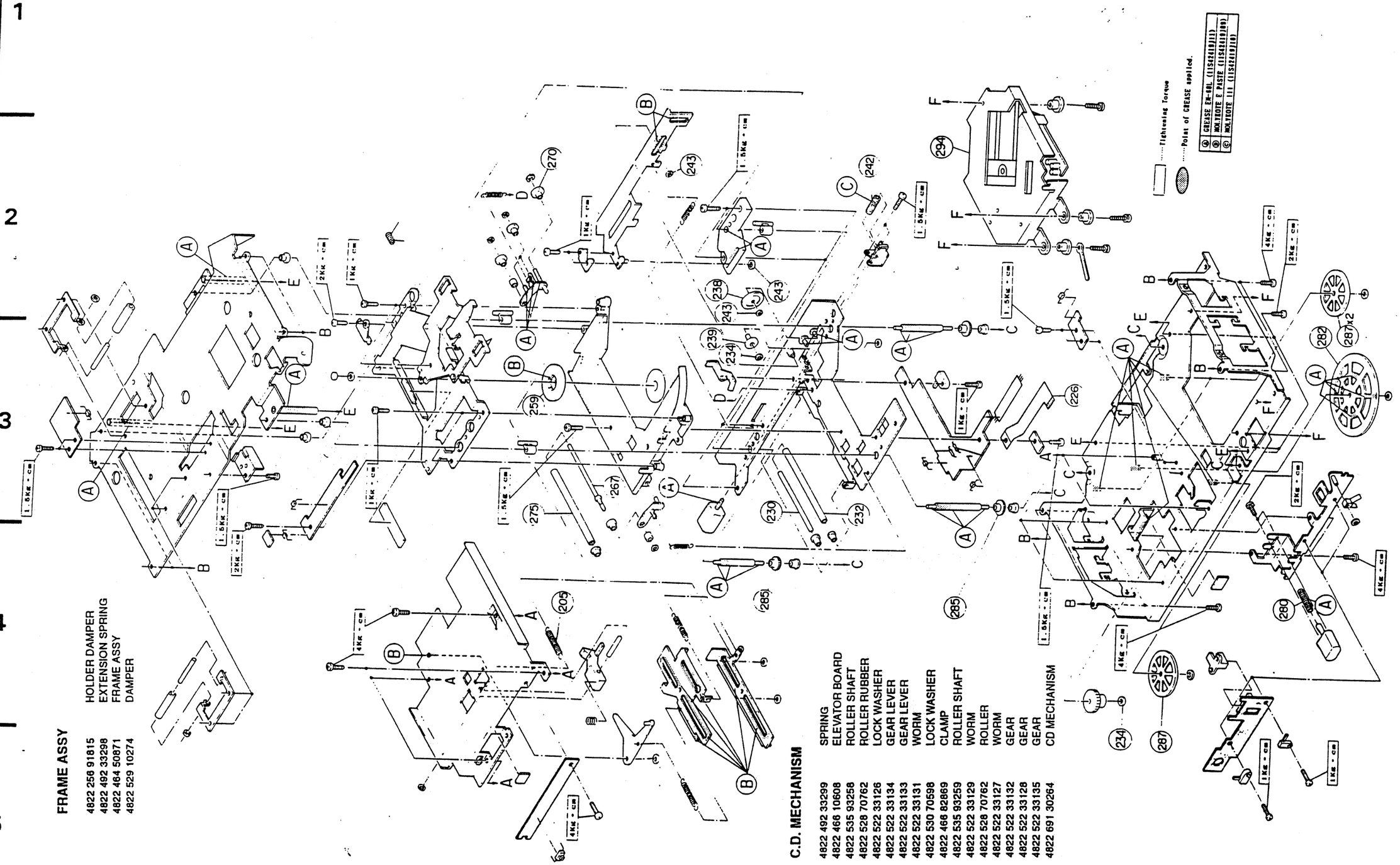
(2/2)



BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

E F G H I J K

Exploded View (CD Mechanism)



FRAME ASSY

4822 256 91815	HOLDER DAMPER
4822 492 33298	EXTENSION SPRING
4822 464 50871	FRAME ASSY
4822 529 10274	DAMPER

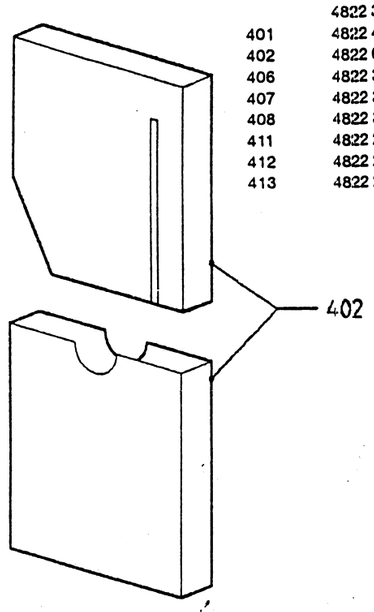
C.D. MECHANISM

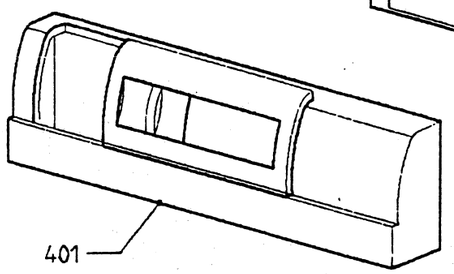
205	4822 492 33299	SPRING
226	4822 466 10608	ELEVATOR BOARD
230	4822 535 93258	ROLLER SHAFT
232	4822 528 70762	ROLLER RUBBER
234	4822 522 33126	LOCK WASHER
238	4822 522 33134	GEAR LEVER
239	4822 522 33133	GEAR LEVER
242	4822 522 33131	WORM
243	4822 530 70598	LOCK WASHER
259	4822 466 82869	CLAMP
267	4822 535 93259	ROLLER SHAFT
270	4822 522 33129	WORM
275	4822 528 70762	ROLLER
280	4822 522 33127	WORM
282	4822 522 33132	GEAR
285	4822 522 33128	GEAR
287	4822 522 33135	GEAR
294	4822 691 30264	CD MECHANISM

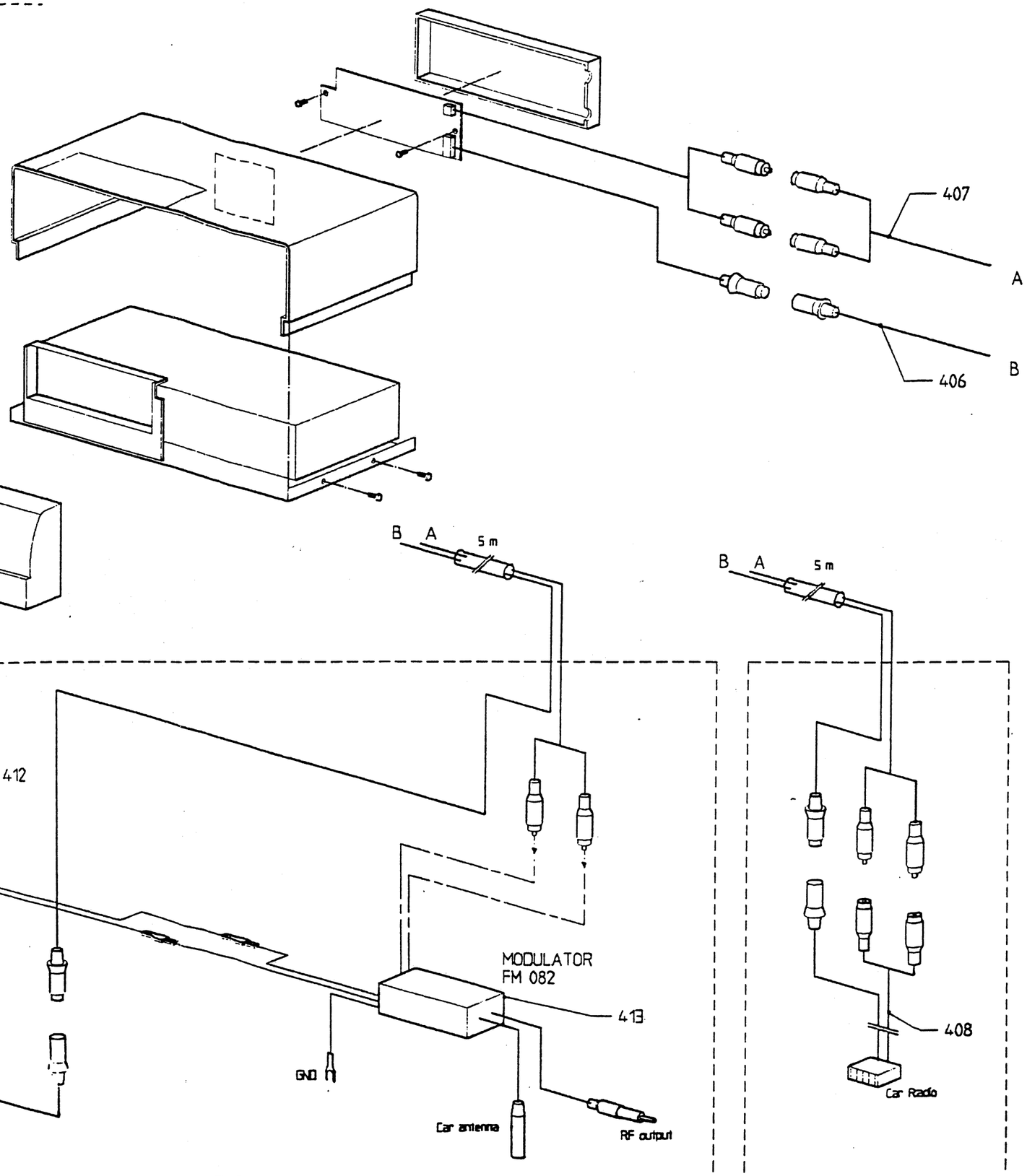
22 DC 082 / 00

GENERAL PARTS

	4822 310 31989	ASSY KIT INSTALL
401	4822 444 40567	ASSY FRONT ESCUTCH.
402	4822 691 10356	ASSY MAGAZINE
406	4822 321 61608	CABLE ASSY DIN(5M.)
407	4822 321 61607	CABLE ASSY RCA(5M.)
408	4822 321 61604	CABLE ADAPTOR ASSY
411	4822 218 10436	REMOTE CONTROL
412	4822 210 10457	F.M. MODULATOR
413	4822 214 33512	POWER MODUL







IC 501 uPD 75112

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	0	0	0	0	0	4.9	P	P	4.9	4.9	P	0	0	0	0
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
0	NC	0	4.9	4.9	0	0	0	5.1	0	4.7	4.9	P	0	4.7	0.2
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
I>	0	0	5.0	P	0	P	P	0	0	4.9	0	P	P	P	P
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	NC	NC	0	0	0	0	0	0

IC 502 LC3516AML

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	0	0	0	0	0	0	0	4.9	4.9	4.9	0	4.9	4.9	4.9	4.9
17	18	19	20	21	22	23	24								
4.9	0	0	4.9	4.9	0	0	5.0								

IC 503 BA10393F

1	2	3	4	5	6	7	8
0	5.0	1.8	0	2.5	4.4	0	5.0

IC 504 uPD4538C

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	5.0	4.9	0	4.9	0	5.2	0	5.2	0	4.6	0	4.9	4.7	0	5.2

IC 505 S-8052 ALR

1	2	3
4.9	4.9	0

IC 701 TA8101F

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2.2	2.2	2.2	2.2	1.7	1.7	2.2	5.0	P	P	P	2.2	2.2	0	P
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
P	P	P	P	P	2.2	2.2	P	P	2.2	P	P	P	P	P

IC 702 TC9201BF

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
NC	5.0	5.0	NC	NC	P	P	P	P	P	P	P	2.2	P	P
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
P	P	2.2	2.5	2.0	P	2.2	5.0	2.8	2.2	2.2	2.2	P	P	P
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
2.2	2.2	2.2	4.4	2.5	P	P	P	P	0	0	NC	NC	P	NC
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
NC	P	P	P	P	P	P	5.0	0	P	P	P	P	P	P

IC 703 TC9200BF

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
P	P	NC	NC	0	NC	0	5.0	P	P	P	P	P	P	NC
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
NC	P	P	P	P	NC	NC	P	P	P	NC	NC	NC	NC	P
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
NC	P	P	NC	NC	NC	NC	5.0	0	NC	P	P	P	P	NC

IC 704 LC3516AML

1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	16
P	P	P	P	P	P	P	P	P	P	P	0	P	P	P	P

IC 705 NJM2904

1	2	3	4	5	6	7	8
P	P	P	0	P	P	P	5.0

IC 706 NJM2100M

1	2	3	4	5	6	7	8
2.2	2.2	2.2	0	2.2	2.2	2.2	5.0

IC 707 NJM2904

1	2	3	4	5	6	7	8
P	P	P	0	P	P	P	8.7

IC 708 TCA0372M

1		3	4		6	7	8	9	10	11	12	13	14	15	16
0		P	8.7		0	0	0	0	0	4.2	4.2	4.2	4.2	0	0

IC 709 TCA0372M

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	0	P	8.7	P	0	0	0	0	0	4.1	4.1	4.2	4.2	0	0

IC 710 NJM 2904

1	2	3	4	5	6	7	8
P	P	P	0	2.6	4.8	0	5.0

IC 101 LB1641

1	2	3	4	5	6	7	8	9	10
0	0.5	0.7	1.6	0	0	8.7	8.7	0.7	0.5

IC 102 LB1641

1	2	3	4	5	6	7	8	9	10
0	0.5	0.7	NC	0	0	8.7	8.7	0.7	0.5

IC 202 NJM2100M

1	2	3	4	5	6	7	8
2.5	2.5	2.5	0	2.5	2.5	2.5	5.0

IC 301 CXD2551M

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	5.0	NC	P	NC	5.0	NC	NC	P	P	P	5.0	P	P	P	P
17	18	19	20	21	22	23	24								
NC	NC	0	NC	P	P	P	0								

IC 302 uPD6376

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5.0	0	5.0	5.0	0	P	5.0	5.0	2.6	2.6	P	0	P	P	P	P

IC 303 TC74HC04

1	2	3	4	5	6	7	8	9	10	11	12	13	14
0	NC	0	NC	P	P	0	NC	0	P	P	NC	0	5.0

IC 801 MC34063

1	2	3	4	5	6	7	8
P	0	P	0	1.3	13.5	13.5	P

IC 802 L78LR05-D

1	2	3	4	5
13.2	6.6	0.7	5.6	5.7

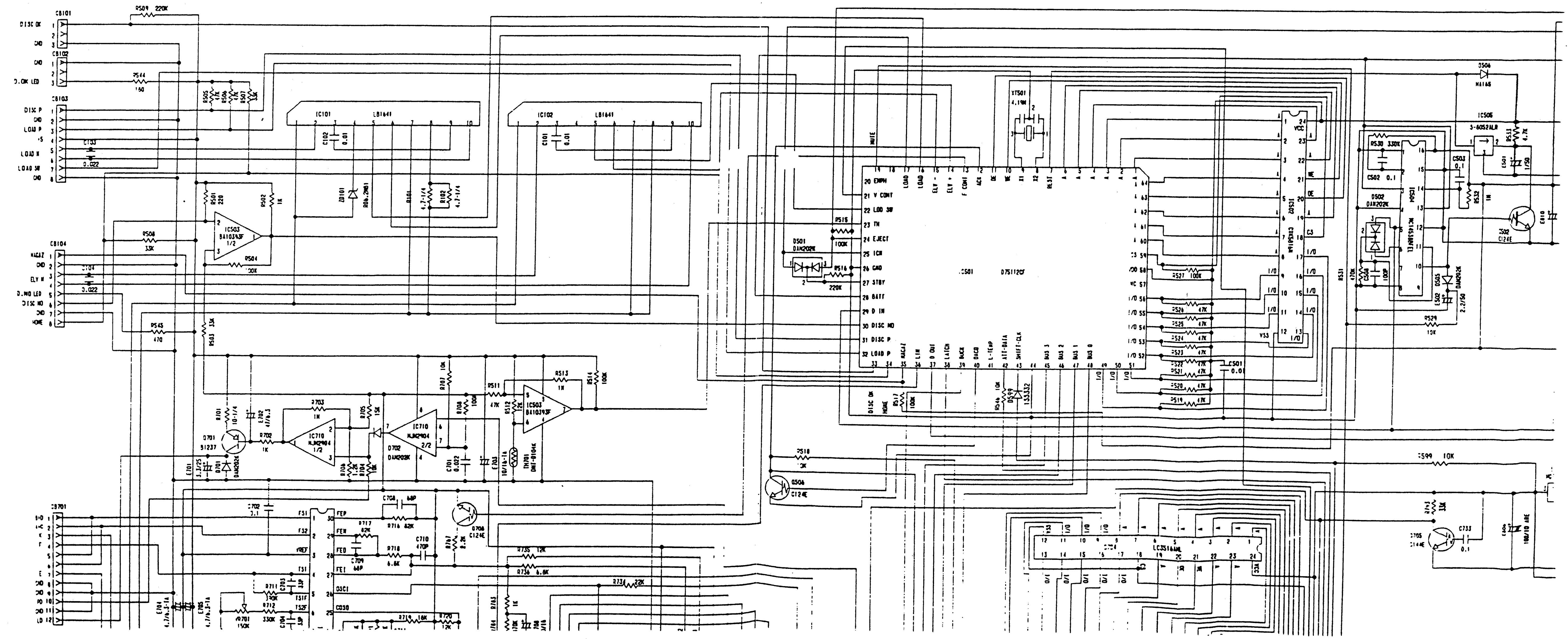
IC 803 MC7805CT

1	2	3
8.6	0	5.0

TRANSISTOR

	Q201	Q202		Q301	Q302		Q502	Q503	Q504	Q50
B	0	0		13.4	0		0	6.4	0	0
C	2.4	2.4		0	13.4		4.9	0	4.9	12.
E	0	0		13.5	0		0	5.2	0	0

	Q700	Q701	Q702	Q703	Q704	Q706	Q707	Q708		Q80
B	4.9	3.8	4.7	3.7	4.2	0.3	5.0	0		
C	0.2	1.8	8.7	0	4.7	4.9	2.1	2.2		
E	5.0	4.5	4.2	4.2	3.7	0	2.2	2.1		13.



5	6	7	8
1.3	13.5	13.5	P

5
5.7

Q301	Q302		Q502	Q503	Q504	Q505	Q506	Q507	Q508		
5.4	0		0	6.4	0	0	P	0.6	0		
0	13.4		4.9	0	4.9	12.2	P	0	5.1		
3.5	0		0	5.2	0	0	0	0	5.1		

Q703	Q704	Q705	Q707	Q708		Q801	Q802	Q803	Q804	Q805	Q806	Q807	Q809
3.7	4.2	0.3	5.0	0		P	0	4.9	5.6	5.6	0	4.9	5.6
0	4.7	4.9	2.1	2.2		P	13.5	0	8.7	13.5	13.4	0	5.7
4.2	3.7	0	2.2	2.1		13.3	13.5	0	5.0	5.0	13.5	0	4.9

CB101,102,103,104,105 DR MECH-SENSOR-P

CB701,702 DR MECH-DRIVE-UNIT

IC601

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
PL3	PL3	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
NC	NC	NC	NC	NC	NC	NC	NC	0	PL3	PL3	5.0	5.0	PL3	PL3	PL3	NC	NC	NC	NC	5.1

IC602

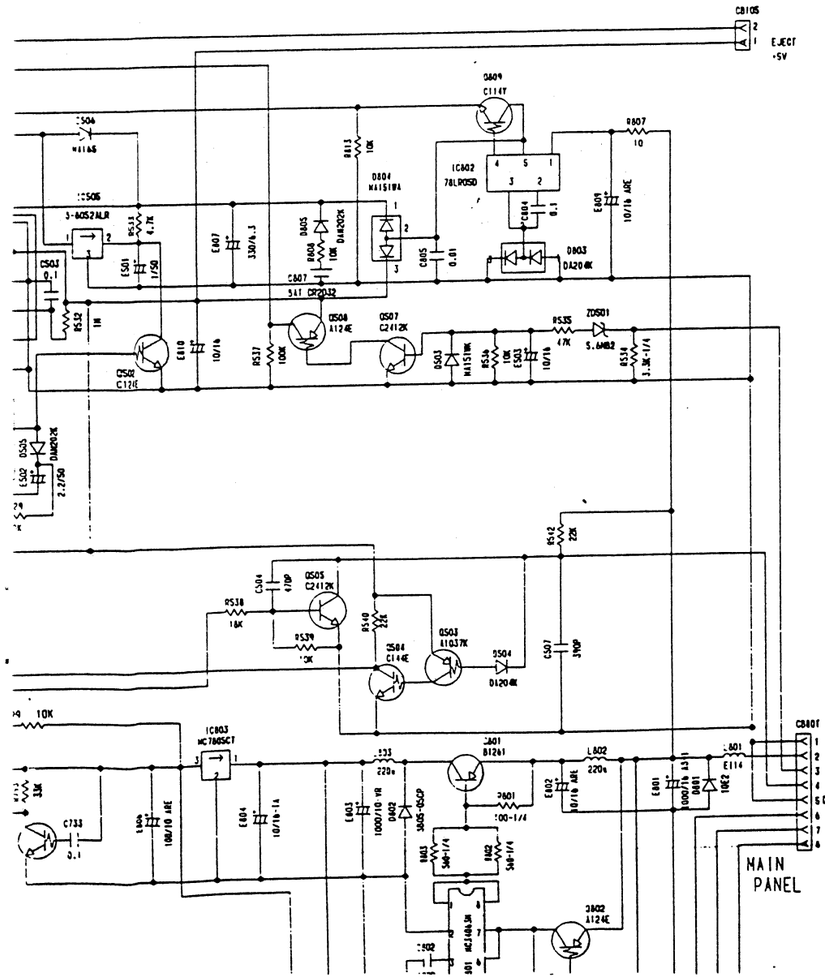
1	2	3	4	5	6	7	8	9	10	11	12	13	14
PL3	PL3	NC	PL3	NC	4.4	0	PL3	PL3	4.4	PL3	PL3	4.4	5.1

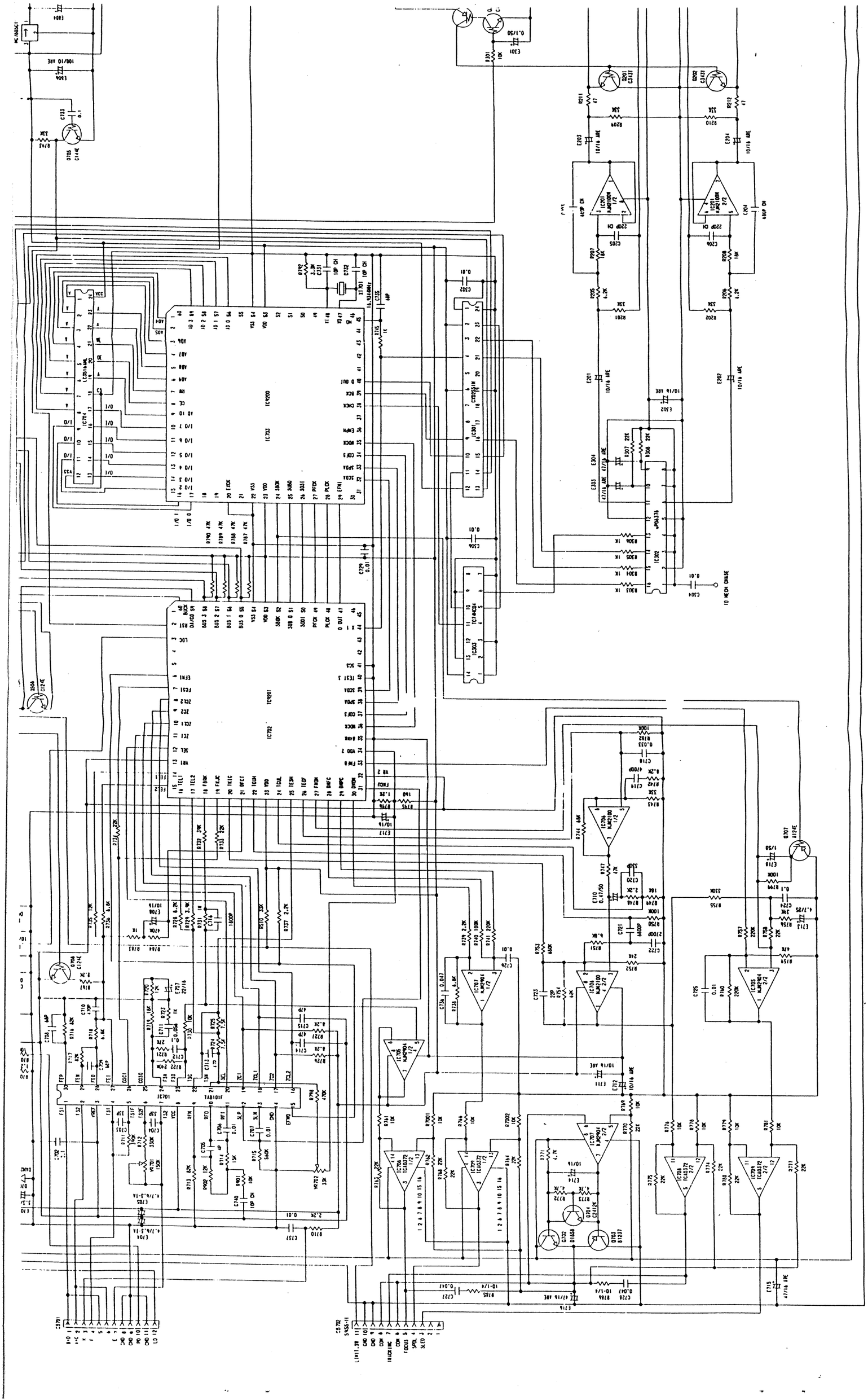
IC801

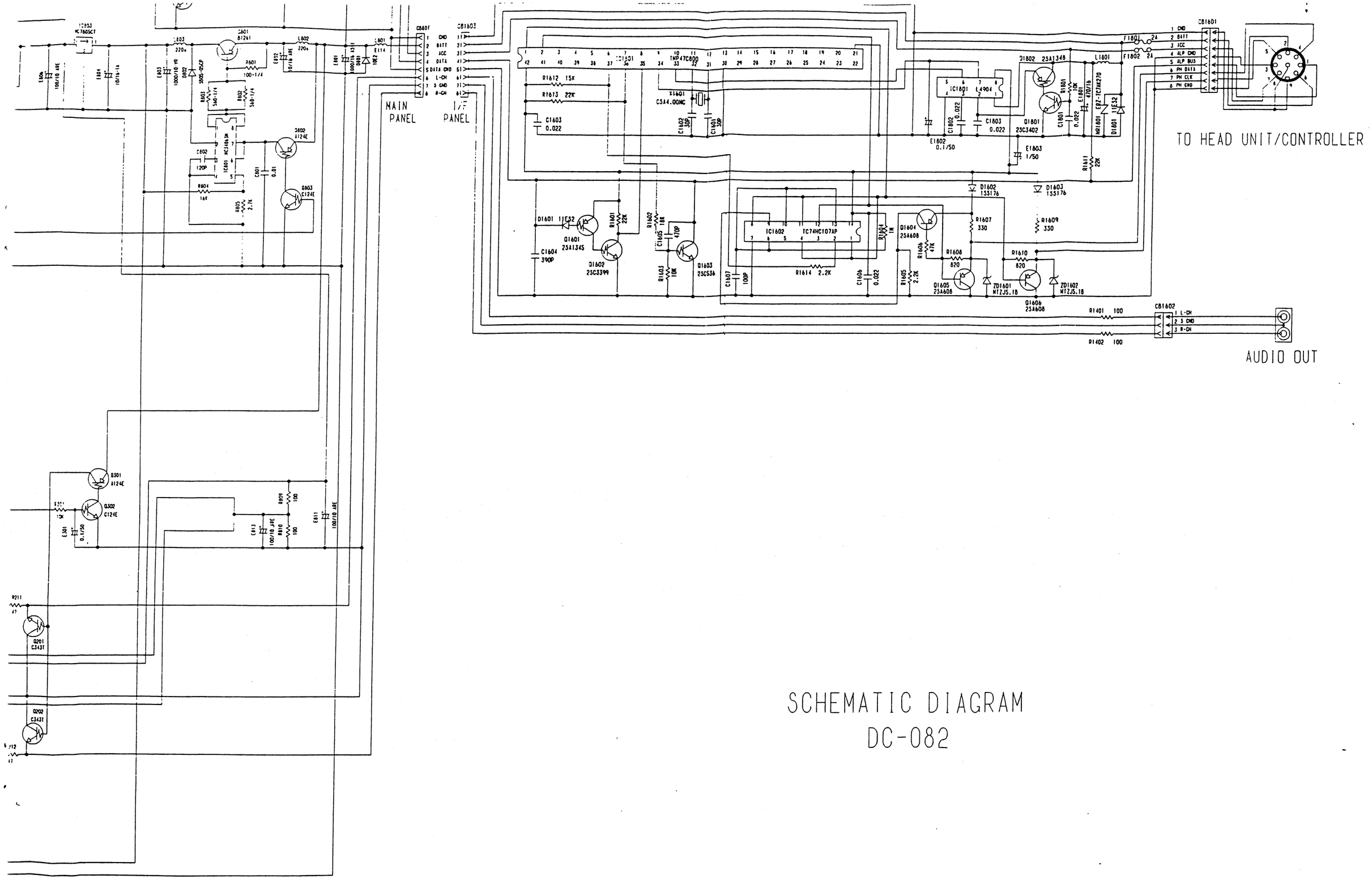
1	2	3	4	5	6	7	8
14.0	14.0	5.7	0	NC	5.0	5.0	5.1

TRANSISTER

REF	Q601	Q602	Q603	Q604	Q605	Q606	Q801	Q802
B	PL3	PL3	PL3	PL3	PL3	PL3	7.7	0
C	PL3	PL3	PL3	PL3	PL3	PL3	0	14
E	5.1	0	0	4.5	0	0	0	14







SCHEMATIC DIAGRAM
DC-082